Final Report

Campus Libraries Facilities Master Plan

University of Wisconsin - Madison

THE UNIVERSITY *of* WISCONSIN MADISON

TABLE OF CONTENTS

Letter from the University Librarian

It all starts with the right vision!

Picture this: A completely reconstructed Memorial Library that preserves the historic core of the building while enhancing user spaces; a new South campus library; plus, remodeled College and Steenbock libraries that create a new "hub" model to the campus library presence.

When the Chancellor directed us to "rationalize the number of libraries" at UW-Madison in 2015, we enthusiastically accepted the challenge. The Libraries engaged with external consultants to prepare a campus libraries' facilities master plan, with the intention of shaping the long-term future of the physical library spaces at UW-Madison. For the past year, we have worked closely with Engberg Anderson Architects (Milwaukee/Madison) and brightspot strategy (New York) to develop that plan, and are excited to share the vision with campus. The plan emphasizes and builds on our strengths: world-class information resources, the expertise of professional librarians and library staff, and modern, well-designed learning spaces.

The libraries are committed to working with the University Library Committee, and other representatives of the research community, to ensure that decisions made serve all sectors of campus.

The consultants' full report, which looks 25 years into the future, will guide long-term campus library development. It is important to recognize that master plans naturally evolve as priorities and in-depth details emerge throughout the process. The plan addresses the unique differences in the ways various disciplines use the libraries, specifically appreciating the fundamental importance of browsing. Working with the existing Consolidation Report (2015), Collections Plan (2012), and guided by the libraries' strategic framework, the master plan articulates the quantity and the quality of the libraries' current spaces, anticipates future space needs, and recommends a phased organizational model, which would include:

Six hub library system:
- College Library
- Memorial Library
- Steenbock Library
- A new South Library
- The Law Library
- The Ebling Health Sciences Learning Center

A critical aspect of creating these recommendations was data collection and analysis. These data helped inform our understanding of current use and projected growth, the decline in the use of print collections combined with an increase in the use of digital resources, physical space uses including collection storage, user spaces, campus partner spaces, and public and staff spaces. More than one-third of the current library space on campus was built to only store physical collections, of which 25% have circulated in the past decade. Currently, collection space on campus occupies approximately 327,000 square feet. The consultants' report reduces that by 62% to 123,800 square feet.

Although the focus of the consultants' full report is on the Libraries' physical spaces, the report acknowledges that most people interact with the libraries via the Web. Online access to resources is a significant service to the University, but its impact can get lost during discussions about physical facilities. The libraries' website is the second most used website on campus behind the central campus website, receiving 6,400,843 visits last year. Our e-book chapter views double each year, with last year's views reaching 1,613,459. Faculty and students requested 61,669 interlibrary loan borrows and consulted research guides 212,036 times last year.

The vision of the plan is to strengthen the role of campus libraries in the academic pursuits of the University by providing the needed spaces and services at strategic locations across campus in alignment with campus planning.

The consultants' full report and recommendations specifically call for:
• Continue library consolidation efforts and fill the Verona shelving facility
• Build an off-site preservation-quality storage facility
• Remodel College Library
• Remodel/rebuild Memorial Library
• Remodel Steenbock Library
• Build a new South hub library

For more information on the libraries' entire facilities master plan process, the consultants' full report and recommendations, and to provide comments and feedback, please visit **Go.Wisc.Edu/LibraryMasterPlan.**

On behalf of the UW-Madison Libraries, I sincerely thank the many groups and individuals for their contributions to this process, our consultants, as well as Library staff and staff across several campus divisions.

Edward V. Van Gemert
Vice Provost for Libraries and University Librarian
University of Wisconsin–Madison

Acknowledgements

UW-MADISON | CAMPUS LIBRARIES
Bruce Barton, Shared Development Group
Susan Dibbell, Wisconsin Union
Michael Enyart, Head of Business Library
Steve Frye, Chair of Public Services Management Team
Nancy Graff Schultz, GLS Executive Group
Alex Johnson, Memorial Library, Building and Operations Manager
Lee Konrad, GLS Executive Group
Carrie Kruse, Director of College Library
Anna Lewis, Co-Director MERIT, Library Coordinating Council
Dave Luke, Consolidation Implementation Team
Lesley Moyo, GLS Executive Group
David Pavelich, Director of Special Collections and Archives
Carol Pech, University Library Committee
Jean Ruenger-Hanson, Head of Steenbock Library
Edward Van Gemert, Vice Provost of Libraries & Univerisity Librarian
Natasha Veeser, Director of Communications
Nola Walker, Assistant Director for Assessment
Travis Warwick, Head of Math Library
Doug Way, GLS Executive Group
Heather Weltin, Director of Collection Management and Resource Sharing

UW-MADISON | FACILITIES PLANNING AND MANAGEMENT
Gary Brown, Campus Planning Director
Brent Lloyd, Space Management Director
Margaret Tennessen, Deputy Associate Vice-Chancellor
Megan McBride, Project Manager

UW-MADISON | STUDENT LIASON
Alison Caffrey, MA Student, School of Library and Information Studies

UW-SYSTEM | CAPITAL PLANNING AND BUDGET
Cathy Weiss, Project Manager

WISCONSIN | DEPARTMENT OF FACILITIES DEVELOPMENT & MANAGEMENT
Jon Jenson, Project Manager

CONSULTANT TEAM
Jeff Hanewall, Engberg Anderson Architects
Joseph Huberty, Engberg Anderson Architects
Alexandra Ramsey, Engberg Anderson Architects
Matt Burke, brightspot strategy
Alexis Cruzzavala, brightspot strategy
Adam Griff, brightspot strategy
Emily Kessler, brightspot strategy
Brad Biddick, Henneman Engineering
Tim Cole, Henneman Engineering
Tyson Glimme, Henneman Engineering
Darren Schumacher, Henneman Engineering
Tom Middleton, Middleton Construction Consulting

RESEARCH ACTIVITIES: Looking | Listening

ENGAGEMENT ACTIVITIES: Collaborating | Sharing

Categories (rows):
- ACADEMIC STAFF
- LIBRARY & UNIVERSITY LEADERSHIP
- LIBRARY STAFF
- FACULTY
- GRADUATE STUDENTS
- UNDERGRADUATE STUDENTS
- COMMUNITY
- WORKING GROUP
- STEERING COMMITTEE

Timeline (months): NOVEMBER · DECEMBER · JANUARY · FEBRUARY · MARCH · APRIL · MAY

Dates: 11/14 · 11/21 · 11/28 · 12/5 · 12/12 · 12/19 · 12/26 · 1/9 · 1/16 · 1/23 · 1/30 · 2/6 · 2/13 · 2/20 · 2/27 · 3/6 · 3/13 · 3/20 · 3/27 · 4/3 · 4/10 · 4/17 · 4/24 · 5/1 · 5/8

Years: 2016 · 2017

Phases: GROUNDWORK · UNDERSTANDING & VISIONING · PLANNING & PROTOTYPING

Trips: TRIP 1 · TRIP 2 · TRIP 3 · TRIP 4 · TRIP 5

30% Deliverable

TRIP 1 activities:
- Kickoff Workshop (Steering Committee)
- Kickoff Workshop (Working Group)
- Workshop: Kick-Off (Undergraduate Students)
- Workshop: Kick-Off (Graduate Students)
- Focus Groups
- Tours & Observations
- Town Hall
- Committee Meetings
- Committee Meetings
- One-on-one Interviews

TRIP 2 activities:
- Visioning Workshop (Steering Committee)
- Visioning Workshop (Working Group)
- Town Hall
- Town Hall
- Intercept Interviews
- Intercept Interviews
- Survey
- Focus Group
- One-on-one Interviews with University
- Focus Group

TRIP 3 activities:
- Presentation: current state, visioning, & campus planning
- Visioning Workshop *
- Visioning Workshop *
- Visioning Workshop *
- Visioning Workshop *
- UX Workshop

*NOTE: Integrated into Visioning Workshops as listed above

TRIP 4 activities:
- Presentation: Programming & Campus Planning
- Workshop: Programmatic Shifts
- Workshop: Programmatic Shifts
- Workshop: Consolidation
- UX Workshop (combined)

TRIP 5 activities:
- Presentation: Programming & Adjacencies
- Workshop: Key Adjacencies
- Workshop: Refine Program
- Town Hall (combined)

Introduction

Master Plan Purpose

In the fall of 2015, UW-Madison Campus Libraries selected a consultant team to complete a facility master plan to transform their physical identity to coincide with ongoing strategic changes within the system. Consolidating collections and services, shifting space uses, and creating a more user-centric experience for their patrons are key to transforming inefficient, ineffective spaces into assets that will support the mission and vision identified for the university. There are over 40 library locations across campus, ranging in size from small rooms to multi-story buildings with collections numbering in the millions. Factors such as the digitization of collections and the increasing use of technology; changing pedagogies and research methods; and the de-centralization of staff and services are but a few factors in the decision to undertake several initiatives to consolidate, reorganize, and transform the libraries for the 21st century.

Master Plan Process

Following the Wisconsin state standards for developing master plans, the project was divided into five phases; groundwork, understanding & visioning, planning & prototyping, recommendations and project completion.

In order to understand the current state of the campus libraries, the master plan team visited the campus several times to conduct a series of listening sessions, focus groups and user workshops, as illustrated in the graphic on the previous page. Alongside campus engagement, the master planning team assessed the current spaces, analyzed current programs and usages, and benchmarked against peer institutions. This led to the determination of space program recommendations and a series of potential alternative scenarios of differing space distribution approaches and associated costs.

Vision and Mission Statement of UW-Madison Campus Libraries

In January 2014, the Library Coordinating Council approved the following mission and vision statements for the UW-Madison Campus Libraries:

Mission

University of Wisconsin-Madison Campus Libraries provide:
- Leadership for the selection, organization, access, and preservation of sources of knowledge in all formats;
- Exemplary information services designed to fulfill the needs of a great public research university;
- Inspirational environments for collaborative and individual discovery, study, and learning.

Vision

The libraries are essential partners in the creative exploration, intellectual growth, and scholarly pursuits of the university.

To that end, the libraries will:
- Invest in user experiences that inspire the creation, discovery, and sharing of knowledge:
  - Services
  - Physical Spaces
  - Virtual Spaces
- Provide expertise, services, and tools that prominently position the Libraries throughout the life cycle of research, teaching, and learning.
- Integrate innovative approaches to how the Libraries develop, disseminate, and preserve collection and information resources.

This page is intentionally left blank.

Executive Summary

Section includes:

1.1 CHALLENGES AND OPPORTUNITIES

The current library system is not meeting its potential in serving the campus community. It is a diverse aggregation of discipline-focused libraries, professional libraries and departmental reading rooms that supplement the three General Library System (GLS) libraries; Memorial, College and Steenbock. The distributed nature of this system is unsustainable as library resources are depleted by the management of more than three-quarters of a million square feet of space rather than keeping pace with collection acquisitions and supportive services. This plan identifies a reduced footprint for campus libraries, while extending both the reach and depth of services provided.

The physical space of the libraries hampers the ability of staff to utilize their expertise to significantly contribute to the academic mission of the university. A majority of current library spaces exemplify an outdated pedagogy where students work independently on individual explorations using physical materials. Through a series of workshops with library patrons, this study identifies the success of new types of collaborative spaces, technological resources and partnerships implemented within the libraries and reinforces the need for additional flexible and adaptable spaces to keep pace with change. While the libraries are highly valued for what they currently offer, there should be a continued emphasis on innovation and keeping pace with an increasing demand.

More than a third of the current library space on campus was built to warehouse physical collections, of which only 25% have circulated in the past decade and only 3% circulate in a typical year. A critical aspect of planning for the future was understanding the physical collections; ongoing efforts to keep the collection effective and relevant, projections of collections acquisitions in both digital and physical materials and considering how to most efficiently store items while maintaining the level of access desired by the patron community.

It is the vision of this facilities master plan to strengthen the role of campus libraries in the academic pursuits of the university by providing the needed spaces and services at strategic locations across campus in alignment with broader campus planning. This report identifies spaces that can be transformed to support the goals of the library system, spaces that should be relinquished to the campus inventory to serve other needs, and spaces that should be demolished and rebuilt to support the priority of patron services on campus.

1.2 UW CAMPUS LIBRARIES PROFILE SUMMARY

The current library system analyzed in this report contains 21 individual library spaces housed in 18 buildings with 755,700 assignable square feet. The map on the following pages illustrates the libraries included in this report (**Figure 1.2-A**). Most of this space is controlled by the General Library System, but stewardship of some spaces remains with the departments and schools directly affiliated with the focus of the library, these are noted as non-GLS on the map. Ongoing efforts are underway to clarify the relationships between the Campus Library System and the non-GLS libraries. The map also indicates the status of each library with regards to the Consolidation Working Group's recommendations, as described in Section 1.4.

	EXISTING CAMPUS LIBRARIES		Consolidation Working Group Recommendation
1	Art Library	GLS	Retain Current
2	Astronomy Library	GLS	Consolidate
3	Business Library	GLS	Consolidate
4	Chemistry Library	GLS	Consolidate
5	College Library	GLS	Resource
6	Geography Library	GLS	Consolidate
7	Geology & Geophysics Library	GLS	Explore
8	Health Sciences Learning Center	Non GLS	Resource
9	Historical Society Library	Non-GLS	
10	Law Library	Non-GLS	Resource
11	Mathematics Library	GLS	
12	Memorial Library	GLS	Resource
13	MERIT Library	Non-GLS	Resource
14	Mills Music library	GLS	
15	Physics Library	GLS	Consolidate
16	Social Science Reference Library	GLS	Consolidate
17	Social Work Library	GLS	Consolidate
18	Special Collections	GLS	
19	Steenbock Library	GLS	Resource
20	University Archives	GLS	
21	Wendt Commons Library	Non-GLS	Consolidate
22	Middleton Storage Facility	Remote	Relocate
23	Science Library Shelving Facility	Remote	
24	Verona Book Storage Facility	Remote	Expand

Note: Remote storage facilities (black circles) are not open to the patrons.

Figure 1.2-A: Campus Libraries included in this report.

1.3 RELATIONSHIP TO UW-MADISON CAMPUS MASTER PLAN

This master plan seeks to provide consistent services to the entire campus community using the campus master plan (2015) to understand the shape of the community in the years to come. While the current library system is heavily weighted toward the historic campus at the eastern edge, the Campus Libraries Facility Master Plan seeks to enhance the libraries presence in both the west and south campus while reducing the overall footprint.

1.4 RELATIONSHIP TO UW-MADISON CAMPUS LIBRARIES STRATEGIC PLAN

This master plan defines the quantity and quality of physical space required by the library system to fulfill the strategic mission and vision of the institution. Consideration of the previous work efforts of the Consolidation Working Group and the Service Delivery Model Cluster Process were instrumental in understanding the space requirements of physical collections, user groups, and staff processes. To the greatest extent possible, the people involved in the development of these strategic initiatives were also involved in the master plan process to allow for seamless integration and coordination.

The project drivers developed for the master plan were developed to consider the libraries physical spaces in light of the strategic goals identified (see Section 2.3 for additional details);

1. Given the university's reputation as a world leader in **research and scientific discovery**, strengthening research capabilities is a priority for the university; however research support is still emerging as a specialty for the libraries.
2. **Teaching and learning** are changing due to a shift towards more active learning and the inclusion of new technologies.
3. **Special and archival collections** remain hidden and inaccessible. Many are housed in spaces not properly controlled for temperature and humidity.
4. The libraries are in the process of transforming how they provide **services**, and the current state of the physical space cannot support the new service delivery model.
5. The libraries depend on **partnerships** to supplement their services, but current space allocations and service points aren't meeting the needs of the partners nor the patrons.
6. The libraries' physical **space** is not meeting the needs of its patrons and staff.
7. The libraries lack a single **cohesive identity** that challenges its ability to achieve its mission.

1.5 SUMMARY OF EXISTING CONDITIONS

People

The campus library system serves the entire campus community; university faculty and staff, graduate/professional students, undergraduate students, public patrons and library staff were each consulted and considered during the planning process.

These interactions led to four key insights which informed the plan as follows:

1. The report documents differences across disciplines in the intensity of library use, with the Arts & Humanities most reliant on library resources to further their knowledge. The plan maintains the weight of library space in the central campus while increasing service to other areas.
2. Smaller libraries were appreciated for the ability to build relationships with staff and orient to spaces and collections. While maintaining a large number of small libraries is not a sustainable model, the future library hubs will strive to maintain a strong staff presence both at library locations and embedded within departments.
3. Patrons are eager for improvements to amenities and shared resources. These are key to the overall transformation contained in the plan.
4. Patrons expect the libraries to be accessible. The plan will overcome the current technical deficiencies in accessibility and more broadly transform the libraries into welcoming and inclusive environments.

For the purposes of space planning, it is assumed that both the student and library staff populations would remain consistent over the planning horizon, at 40,000 full time equivalent students and 220 full time equivalent staff.

Programs & Services

The library offers a range of programs and services to support the academic pursuits of the university. Librarians assist with research, teaching and learning, student support, scholarly communications and data management. While this study does not attempt to translate these services into specific space type recommendations, it recognizes the growing importance of space to support these endeavors and partner relationships to further the depth and breadth of services.

The report considers the space for users as a continuum, quantified as a percentage of students provided with a seat calculated with a consistent net area. The UW-Madison campus currently provides seats for 20% of the student population. During on campus engagements, participants consistently remarked that seats at the library are highly desired for their ability to deliver a serious environment for focused work and that at peak times, seats are not available for everyone seeking one. Given this specific dynamic on campus, the master plan recommends that the current proportion of students accommodated in the libraries be maintained while the quality of the seating environments is improved and diversified to better meet current and future needs.

Collections

An in-depth analysis of the current library holdings was undertaken in close coordination with the library staff to project the future space needs of the library system. This analysis considered the efforts underway to streamline the collection through a de-duplication process and shared retention agreements with other institutions. Added to this base collection was a conservative projection of acquisitions, recognizing the growing but still limited availability of digital resources. See Section 4.4 and Appendix 2 for details.

After quantifying the collections, the team analyzed the frequency of use of materials to determine the extent to which materials should remain browsable on open public shelving and what could be shifted to off-site storage for requested retrieval. While a general sense of nostalgia remains regarding the quantity of books immediately available to the public, the actual usage statistics indicate that three quarters of the collection has not circulated in the last decade and only 3% of the collection circulates each year. The report recommends percentages of collections by discipline to remain on campus and what may be reasonably shifted to remote storage environments. The input of the library staff has been instrumental in understanding the collections and the most efficient and effective method of housing the collections and meeting diverse patron requirements for access.

Space Needs

The overall scale of the space needed by campus libraries in the future was determined based on the five planning categories typically used by academic libraries; user space, partner space, public space, collections and staff. (See Section 4.4 for category definitions.) By using a combination of peer benchmarking and analysis of existing usage, a system-wide space category program was developed with an overall space reduction of 24% (**Figure 1.5-A**). In line with current trends, partner and public spaces are increased and supplement the overall inventory of spaces available for users to research, study, learn and collaborate.

Figure 1.5-A: Existing and Proposed Space Use by Category
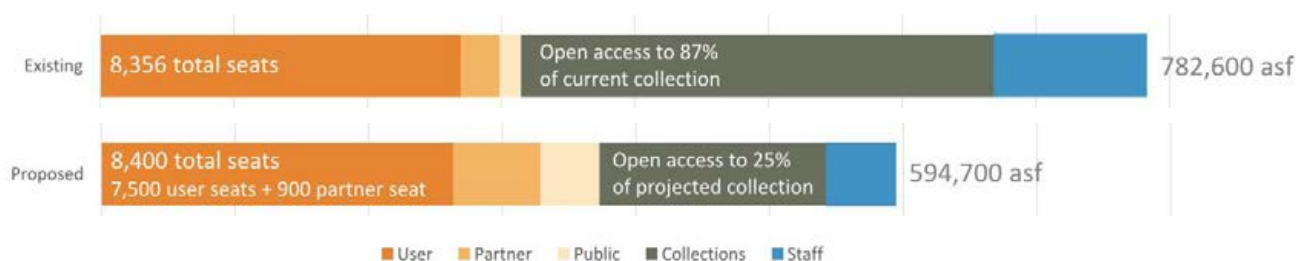
Physical Environment

While in general library spaces are satisfactory and well maintained, the library system simply has too much space spread across too many buildings. The master plan recommends consolidation of the program space into six locations, allowing the library to focus resources on enhancing services.

The condition of the library locations to remain in service as campus libraries varies considerably. See Figure 1.5-B for a summary of condition grades for each according to envelope, interiors, building systems and function.

College and Steenbock have well organized, open and flexible spaces that can easily be transformed into the types of spaces envisioned by this plan. Memorial presents a more serious challenge, not only are the systems in poor condition, the purpose-built book storage spaces with close column spacing and low ceiling heights cannot accommodate the functional needs of user spaces. The Law Library and Ebling Health Sciences Learning Center are both in satisfactory condition. Health Sciences is currently undergoing a renovation, reducing the overall collection size and library footprint.

Figure 1.5-B: Average Condition Grading by Library
* indicates libraries recommended for consolidation in 2015 report.
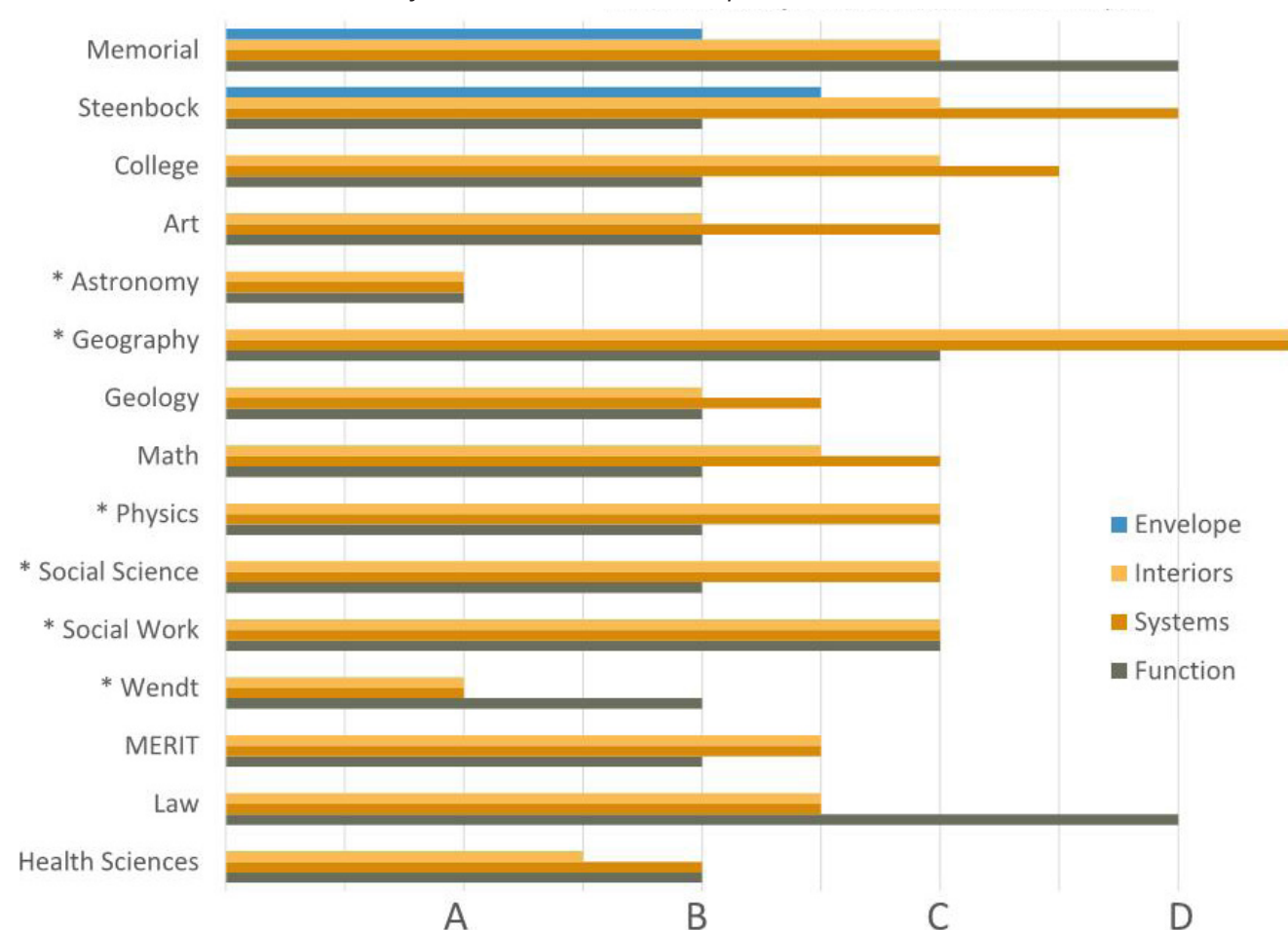
Key:
  A : Excellent condition, no renovation required.
  B : Satisfactory condition, minimal renovation required.
  C : Fair Condition, moderate renovation required.
  D : Poor condition, significant renovation required.
  F : Unsatisfactory condition, major renovation or replacement required.

1.6 SUMMARY OF OPTIONS CONSIDERED

After identifying the overall category program for the library system, the team developed three distinct options for distributing the space across campus. The first option was built around leveraging existing library locations and resulted in a ten-library system, maintaining the smaller embedded libraries at the south campus. The second option described a six-library system with geographical distribution following the needs of disciplines and the growth anticipated by the campus master plan. The third option eliminated College Library, testing the notion of distributing foundational services for undergraduates across campus.

After weighing the three options against the project goals, Option 2 described in the following recommendation, was determined to best meet the vision of the project; providing the campus with a robust system of hub libraries and recognizing the efficiency of consolidated services to undergraduates at College Library.

1.7 SUMMARY OF RECOMMENDATIONS

This master plan describes a road map that will guide the campus libraries through a series of projects starting with the continuation of ongoing consolidation efforts and resulting in a six-library system that empowers research, cultivates teaching and learning, enhances interactions with special collections, transforms services, leverages partnerships, and improves staff and patron experiences.

Hub Library System

The hub library system would include College Library, Memorial Library, Steenbock Library, a new South Library, the Law Library and Ebling Health Sciences Learning Center. Each of these libraries would provide a consistent set of services to support all students within a 15-minute walk of any location on campus. These libraries would have a cohesive identity on campus, signaling their dedication to serving the entire campus community with inspirational environments and innovative services.

College Library Renovation

College Library currently serves undergraduate and undeclared students at Helen C. White Hall. Given the high quality, adaptable spaces and the recent investments in innovation, the master plan recommends that renovations continue within the library until all deficiencies have been addressed. College Library will maintain its role in supporting the whole student, reaching beyond academic achievement to long term development.

Off-Site Storage Facility

In order to continue to maintain and preserve the robust collection required by a great research university, the master plan recommends that the current strategy of warehousing infrequently used collections in the most efficient manner off-site should be continued. New off-site storage should be developed to an appropriate preservation standard. Not only is this approach economical in terms of both space and capital dollars, but will also ensure adequate protection for previous investments in these irreplaceable resources.

East Hub Library: Memorial Library Reconstruction

As the flagship library of the campus libraries system, the master plan recommends that the outdated and inflexible spaces built for book storage, nearly half the building, be demolished and replaced with high-quality, flexible spaces for users. With an overall reduction of 24% in assignable square feet, the reconstructed library will be right-sized and built with the flexibility to meet the current and future needs of the University. On the border between campus and the public sphere, this library offers great opportunities to embody the Wisconsin Idea and provide spaces to inspire generations to academic excellence.

West Hub Library: Steenbock Library Renovation

Ideally located in the near west campus, the flexible existing structure would be renovated into an interdisciplinary hub. Collections related to STEM disciplines would be located here, either publicly browsable or within the storage facility at the lowest level.

South Hub Library

To address the current lack of a library on the south campus with an identity separate from associated departments, the master plan recommends a new South Library Hub. Recognizing the future growth in this area of campus and the importance of the programs located here, the library will build a hub to provide essential services to these populations.

Professional School Libraries

Recognizing the important role that the Law School Library and the Health Sciences Learning Center play in the distribution of library services, they are both included in the overall campus library system assessment. However, given the role that their governing departments play in their development, the master plan does not recommend any specific projects related to these two libraries.

1.8 IMPLEMENTATION PLAN SUMMARY

The chart below (**Figure 1.8-A**) illustrates the recommended sequence of projects over the 20+ years of the planning period. Each project will require a detailed programming and design study to identify the particular spaces and partners to be included in each location. The estimated costs of each project are provided (**Chart 1.8-B**) as construction cost, total project cost, in both today's dollars and escalated to the anticipated year of construction if the implemenation proceeds according to plan.
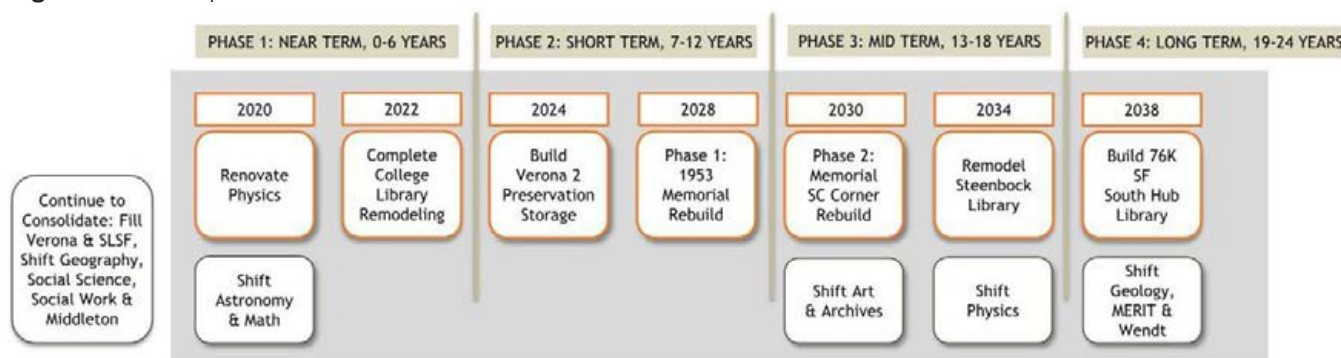
Figure 1.8-A: Implementation Plan

Chart 1.8-B: Total Estimated Costs in today's dollars (2017) and escalated to anticipated year of construction

Project	Construction Cost	Total Project Cost	Target Date	Approximate Gross Square Feet	Escalated Total Project Cost
Physics Library	975,000	1,459,000	2020	6,500	1,634,000
College Library	5,842,000	8,524,000	2022	33,000	10,399,000
Verona (off-site) Storage	8,021,000	11,024,000	2026	33,000	15,654,000
Memorial Phase 1-2	71,692,000	101,991,000	2028	318,000	157,066,000
Steenbock Library	29,681,000	19,471,000	2032	83,000	35,047,000
South Hub Library	13,120,000	41,881,000	2036	108,000	88,369,000
TOTAL	**$129,331,000**	**$184,349,000**			**$308,169,000**

The map on the following page (**Figure 1.8-C**) shows the final recommended configuration of the campus library system, including four hub libraries and two professional school libraries.

As noted above, the key to the efficiency of the plan is found in the downsizing of Memorial Library, replacing inflexible and inaccessible book storage spaces with open, flexible floor plates that will adapt to current and future library service needs. The rendering (**Figure 1.8-D**) illustrates the rebuilding of Memorial Library with an accessible entrance onto Library Square and a reduced overall mass. Future design efforts will determine the level of transformation for the existing facade and the design language of the addition fronting State Street.

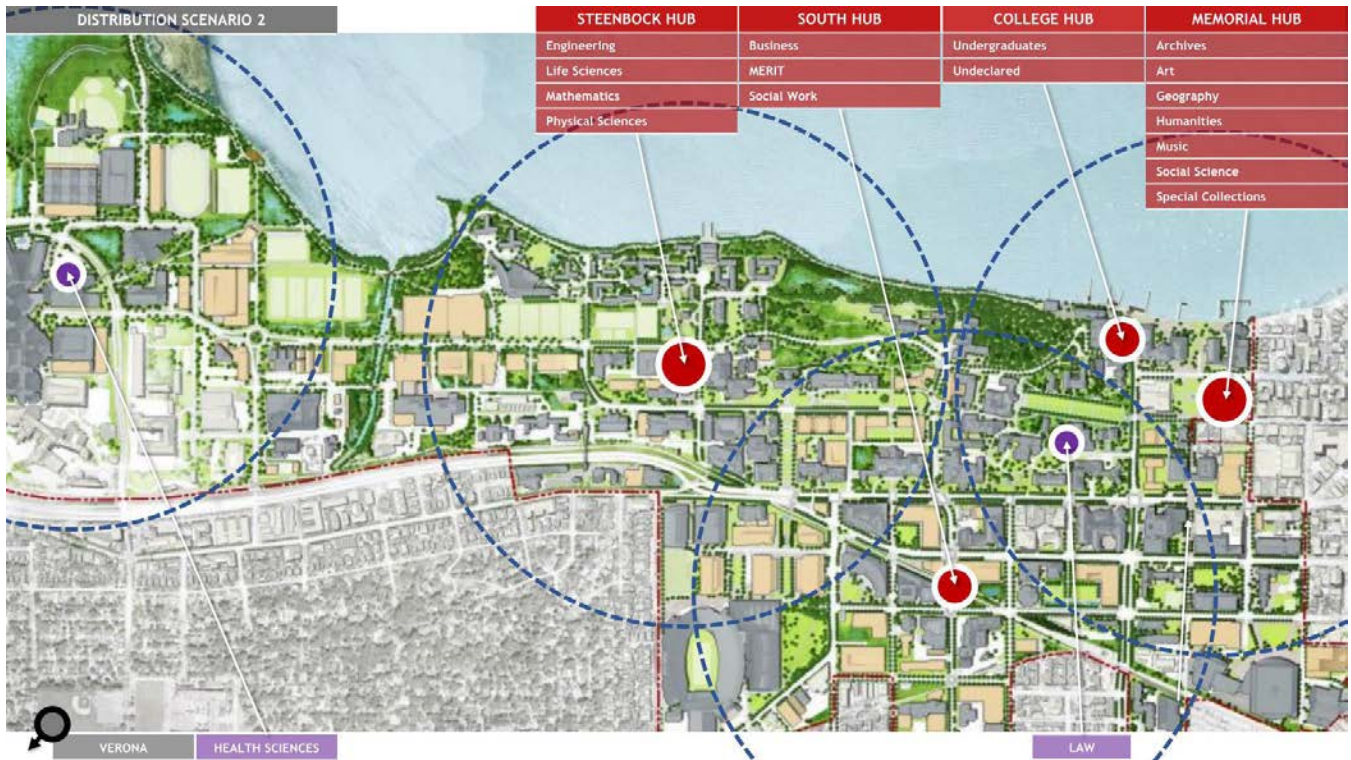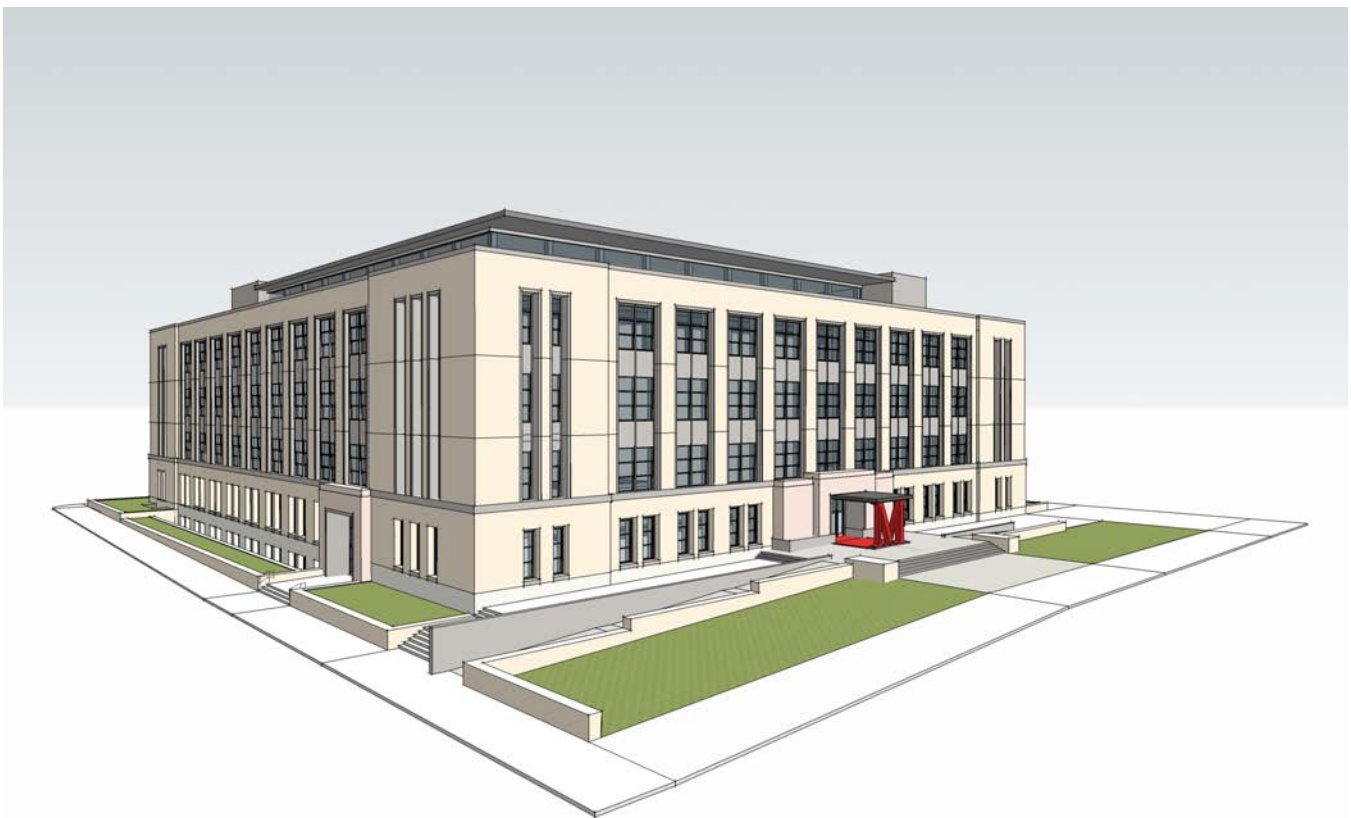**Figure 1.8-C**: Final recommended configuration of Hub Library System

Figure 1.8-D: View of Remodeled Memorial Library from Library Mall

This page is intentionally left blank.

UW-Madison | Campus Libraries Facilities Master Plan

General Background and Context

2.1 UW-Madison Campus Libraries History and Summary

The UW-Madison campus libraries are scattered in over 40 locations on campus and range in size from small reading rooms with a few hundred books to major research collections containing several million titles in multiple formats. With the exception of single department reading rooms, most campus libraries have their holdings listed in the shared online catalog **(http://www.library.wisc.edu)** and participate in other library services such as lending and document delivery. This study will focus on these libraries; the GLS libraries that report to the Vice Provost for the libraries and the professional libraries that report to their college deans; Law, Health Science, Education and Engineering.

2.2 Previous UW-Madison Campus Libraries Planning Efforts

Prior to the initiation of this facility master plan, the libraries completed several strategic planning efforts that will inform this project.

The first effort undertaken was "A Vision for Knowledge through 2020" that identified strategies to transform the library enterprise to become an essential partner in the academic success of the university. The plan identified three core principles that underlie the work of the libraries; inclusiveness, collaboration, and communication. The strategic goals can be summarized as follows;

1. Establish assessment as a continual and integral program.
2. Strengthen collections program to address strategic campus and consortial goals.
3. Develop comprehensive scholarly communications program.
4. Identify and invest in the expertise needed to advance and sustain a modern research library.
5. Capitalize on efficiencies to provide high quality services and spaces.
6. Expand capacity for providing library services in a networked environment.
7. Increase budget flexibilities to meet library priorities.

In 2012, the libraries issued a Campus Collections Plan, responding to the teaching and research needs, both current and future. Following this effort, a Consolidation Report was issued in 2015 which sets a path for the transformation of the libraries and is discussed further in Section 3.1 below. The committees behind these planning efforts; Library Consolidation Working Group, Library Space Planning Committee and the Space Planning and Shelving Group, have been engaged in the master plan process to ensure coordinated outcomes.

2.3 Project Originators & Drivers

Project Drivers (also sometimes called the "Case for Change" or "Drivers for Change") describe the key factors influencing the creation and direction of the Facilities Master Plan. Due to evolving campus and patron needs, and owing to shifts in research, teaching and learning, the libraries at UW-Madison are undertaking a pro-active approach to rethinking their physical spaces over the next 20 years. Project drivers were identified over a series of workshops with various user groups and campus leaders. Synthesis of qualitative and quantitative data was guided through the Steering Committee facilitated by the consultant team. This compilation builds on the various prior and parallel efforts and presents the aspirations of the Library.

Project Drivers:

Driving the need for a new facilities master plan are the following five key factors:

1. Given the university's reputation as a world leader in **research and scientific discovery,** strengthening research capabilities is a priority for the university; however, research support is still emerging as a specialty for the libraries.

- Academic research and scholarship is changing, and the Libraries need to strengthen services and support. To that end, library spaces can be designed to:
- Serve as incubators of new forms of research and scholarship
- Support interdisciplinary trends that explore intersections across disciplines
- Facilitate consultation spaces that are proximal to research collections
- There is an effort to accentuate the role of the campus libraries in UW-Madison's standing as a preeminent research university.
- The collections budget has been historically stagnant and important new content had not been added until recently when the libraries received additional funding.
- Gaining efficiencies in operations can lead to an increase in the collections budget and enable greater purchasing.

2. **Teaching and learning** are changing due to a shift towards more active learning and the inclusion of new technologies.

- Changes to the academic curriculum and a focus on both interdisciplinary teaching and active learning has increased the need for more collaborative and social learning space.
- The campus could benefit from more spaces to deliver and support active learning and interdisciplinary experiences. By providing such spaces, the libraries can play a greater role in supporting new pedagogical approaches.

3. **Special and archival collections** remain hidden and inaccessible. Many are housed in spaces not properly controlled for temperature and humidity.

- Current library spaces are not supporting access to and interaction with these collections.
- Special and archival collections are a great asset of UW-Madison and will continue to set the university apart from its peers.
- However, there is a lack of awareness of these collections that can be rectified with spaces and services that showcase these assets.
- Continued storage of special and archival collections in current spaces may put these materials at risk of deteriorating and disintegrating.

4. The libraries are in the process of transforming how they provide **services**, and the current state of the physical space cannot support the new service delivery model.

- Decreasing the number of locations and aggregating complementary libraries would enable staff to focus on providing high-quality services to patrons rather than maintaining the upkeep of the library spaces.
- Such a shift will strengthen the libraries' offerings in the full research lifecycle while improving efficiency and effectiveness of service delivery.
- Library services need to be enhanced to support new and emerging forms of research and scholarly communications, and to be aligned with campus priorities.

5. The libraries' depend on **partnerships** to supplement their services, but current space allocations and service points aren't meeting the needs of the partners nor the patrons.

- Providing more flexible space to partners, and providing patrons more accessible services at their points of need, will strengthen offerings.
- Leveraging strategic partnerships is key to ensuring the sustainability of the Libraries' limited resources in that they provide accompanying services while creating synergies and driving efficiencies.

6. The library's physical **space**, is not meeting the space needs of its patrons and staff.

- Although there is plenty of space for patrons, user research indicates they have difficulty finding the right kind of space to suit their learning, research or studying needs.
- Preliminary space utilization data demonstrates that the libraries offer 6 square feet of seating space per student; whereas the average among peers is 5 s.f. and the median is 4 s.f. (source: Association of Research Libraries).
- Students have stated that there is not enough quiet study space, especially during finals, nor is there enough reservable private collaborative work space.
- Staff spaces need to be updated to make them more efficient and effective given new processes and work styles.
- Staff in larger libraries, like Memorial, feel isolated and disconnected to one another due to their physical separation.
- The way in which work has changed for library staff requires more collaborative and flexible work space.
- Service delivery needs a greater level of collaboration between staff and patrons necessitating an embedded approach to some service points.

7. The libraries lack a single **cohesive identity** that challenges its ability to achieve its mission.

- Although a variety of spaces are offered to patrons, they are functional at best, and often fall short of the inspiring spaces identified in the mission/vision. There lacks a uniform sense of what services are available at which library locations.
- The libraries would benefit from developing a cohesive master plan to create the sense of "one library" that presents a logical strategy for the distribution of the libraries' services as well as a consistent, high quality user experience.

This page is intentionally left blank.

People and Programs Analysis

Section includes:
3.1 UW-Madison Campus Libraries Strategic Plan
3.2 Organizational Framework
3.3 External Partners

Overview

This chapter provides an organizational overview of the library system including their administrative structure, staffing, strategic planning, patron characteristics, and their programs and services. In order to better understand both patron and staff needs, an extensive user engagement was undertaken including surveys, townhalls, workshops, observational tours, and interviews. The engagement findings are described in sections 3.2.2 Patrons and 3.2.3 Employment of this chapter. In addition, staff visioning workshops highlighted future directions and needs for programs and services, described in section 3.2.5 Program/Services Prioritization.

UW-Madison Campus Libraries programs and services are in the midst of a digital transition. While certain disciplines still require the immediate accessibility and browsability of materials, research materials are increasingly discovered digitally and delivered directly to researchers. Consequently, the primary role of library space has shifted from providing direct physical access to collections to providing cross-disciplinary services often in collaboration with academic partners. The libraries have an increasing role supporting research, teaching, and learning through providing collection access (both physical and digital), as well as spaces for collaboration, work and events.

Library space has an important role in supporting academic communities, and patrons shared that subject specific libraries often help foster a sense of community. Patrons also asked for greater access to specialized resources, better amenities, and more productive spaces, which are important drivers in forming communities, especially as discovery and access of collections is increasingly digital and remote.

3.1 UW-Madison Campus Libraries Strategic Plan

The libraries have embarked on a number of initiatives to meet the changing needs of their patrons and staff while staying aligned with the university's vision and mission. The UW-Madison Libraries Vision for 2020 seeks to "transform the library enterprise to become an essential partner in the academic success of the university." Along with the Strategic Framework outlined in 2014, there is a concerted effort to promote research, teaching, and learning with investments in expertise; capitalize on efficiencies to strengthen services; and provide more accessibility to materials through digital and physical means. Since 2015, the Consolidation Working Group has assessed individual libraries' capacity for consolidation in an effort to improve services and reduce its footprint. Finally, the Service Delivery Framework also proposes space reduction to shift staff focus towards providing more interactions with patrons and less maintaining the space.

3.2 Organizational Framework

As shown on the map in the previous section (**FIgure 1.2-A**), 16 of the 22 libraries included in this study are directly under the management of the General Library System (GLS) reporting to the Vice-Provost of Libraries. In addition to these, four professional libraries serve the university's schools of Law, Health Sciences, Engineering and Education. These libraries report through their respective college deans. In addition, the Wisconsin Historical Society library, while located on campus and serving as the North American History Library for the university, is not a part of the University.

GLS ORGANIZATION CHART

WISCONSIN
UNIVERSITY OF WISCONSIN–MADISON

Nancy Graff Schultz
Associate Director for Administration

- Communications
- Business Services
- Human Resources
- Friends of the Library

Doug Way
Associate University Librarian - Collections and Research Services

- Director of Special Collections and Archives:
  - Art Library
  - Music Library
  - Special Collections
  - Archives
- Director of Collection Management and Resource Sharing:
  - Shelving Facilities
  - Interlibrary Loan
- Director of Scholarly Communication
- Acquisitions
- Physical Preservation

Ed Van Gemert
Vice Provost of Libraries, University Librarian

Lesley Moyo
Associate University Librarian - Public Services

Lee Konrad
Associate University Librarian - Technology Strategies and Data Services

- Memorial Building & Operations Manager
- Director of College Library, Library Spaces & User Experience
- Director of Business Library
- Director for Teaching & Learning Programs
- Director of Science & Engineering Libraries
- Head of Social Science Reference Library and Social Work Library
- Assistant Director for Assessment
- Head of Memorial Public Services
- Head of Geography Library
- Latin American, Caribbean, and Iberian Studies, Linguistics, Language, Literature
- Scandinavian humanities, Jewish Studies, Yiddish language and literature, classics
- Asian Studies - Southeast Asian Studies
- Western European History and social Sciences (including German, Dutch, and Scandinavian)
- African Cultural Studies, Middle East, Economics, Ethnic Studies,
- Political Science
- Asian Studies – East Asian Studies (China Studies, Korea Studies)
- German and Dutch Humanities
- Slavic humanities and social sciences, Turkish and Turkic humanities and social sciences

- Shared Development Group
- Library Technology Group
- UW Digital Collections and Digital Preservation
- Cataloging, Metadata and Discovery
- Technology Services

3.2.1 General Administrative Structure (simplified org chart)

The General Library System (GLS) organizational chart (Image on following page) reflects a vertical structure, with departments focused on Collections, Public Services, Technology and Data Services, and Administration.

3.2.2 Patrons (characteristics, demographics, historical data and future projections)

The following table (**Table 3.2-A**) demonstrates current and future headcount of students (by student level) and faculty and staff (by type). The table illustrates student headcounts for the previous six years. For the purpose of this master plan, future student enrollment rates and demographics are assumed to remain at today's levels.

Table 3.2-A: Student, Faculty and Staff Headcount from 2012 to 2016, including 6 and 12 year projections

STUDENT HEADCOUNT (a)	2012	2013	2014	2015	2016	+ 6 years	+ 12 years
Undergraduate	29,118	29,504	29,302	29,580	29,536	30,190	30,843
Special	1,745	1,815	1,987	2,084	2,174		
Graduate	9,384	9,430	9,445	9,247	9,193	8,905	8,618
Clinical Doctorate	2,573	2,526	2,459	2,480	2,433	2,319	2,206
TOTAL STUDENTS	**42,820**	**43,275**	**43,193**	**43,389**	**43,336**		
Percent Undergraduate	68.0%	68.2%	67.8%	68.2%	68.2%		
Percent Graduate	21.9%	21.8%	21.9%	21.3%	21.2%		
Percentage Change							
Undergraduate Enrollment	1.33%	1.33%	-0.68%	0.95%	-0.15%		
Graduate Enrollment	-0.91%	0.49%	0.16%	-2.10%	-0.58%		
Clinical Doctorate Enrollment	-1.19%	-1.83%	-2.65%	0.85%	-1.90%		
FACULTY & STAFF (b)	**2012**	**2013**	**2014**	**2015**	**2016**	**+ 6 years**	**+ 12 years**
Facutly FTE	2,039	2,057	2,085	2,064	2,017		
Limited Staff	492	513	511	525	552		
Instructional Acedemic Staff	1,726	1,734	1,762	1,840	1,887		
Other Acedemic Staff	4,640	4,676	4,807	4,936	5,422		
University Staff	5,076	5,110	5,067	4,845	4,583		
Post-Degree Training Staff	918	849	855	874	893		
Graduate Assistants	2,509	2,534	2,518	2,459	2,379		
TOTAL STAFF	**17,400**	**17,473**	**17,603**	**17,543**	**17,734**		

Notes: (a) Beginning of Fall Semester, (b) Source: October Payroll

The following table (**Table 3.2-B**) provides 2016 enrollment data by school and helps indicate in which academic buildings students might be located throughout the day. This data also provides insights into which libraries they may be frequenting more often. According to the data, the following schools had the highest enrollment in Fall 2016:

1. Letters and Science
2. Engineering
3. Agricultural and Life Sciences
4. Business
5. Education

Table 3.2-B: Fall Semester 2016 Enrollment by School/College and by Student Level

SCHOOL OR COLLEGE	Undergraduate Students	Graduate Students	Clinical Doctorate Students	Special Students	TOTAL	Percentage of Total
Agricultural & Life Sciences	3,384	829	-	-	4,418	10.2%
Business	2,547	613	-	-	3,220	7.4%
Education	1,531	1,086	3	4	2,661	6.1%
Engineering	4,727	1,386	-	-	6,449	14.9%
Human Ecology	1,107	70	-	-	1,027	2.4%
NI for Environmental Studies	-	142	-	-	139	0.3%
Law School	-	65	508	4	615	1.4%
Letters & Science	15,320	4,213	47	-	19,175	44.2%
Medicine & Public Health	-	634	872	-	1,508	3.5%
Nursing	874	24	110	-	1,056	2.4%
Pharmacy	46	71	553	-	659	1.5%
Veterinary Medicine	-	45	340	23	388	0.9%
Continuing Studies	-	-	-	2,143	2,062	4.8%
TOTAL	**29,536**	**9,178**	**2,433**	**2,174**	**43,389**	

Engagement Summary

From November 2016 to February 2017, the consultants engaged UW-Madison library patrons and staff to uncover key insights into patrons' current behaviors and future needs. Through a series of engagements, the team interacted with undergraduates, graduate and professional students, faculty, library and academic staff, and public patrons. A summary of the engagements and number of participants is listed below:

- Tours—17 library locations each tour lasting between half an hour and three hours
- Interviews—Six library leaders, five campus leaders
- Meetings/Workshops—Three library committees, seven faculty members, ten graduate/professional students, 12 library staff, nine academic staff, one staff UX workshop, and four Thematic Visioning Workshops with library representatives from all libraries in scope
- Town Halls—16 undergraduates, 50+ library staff, two student community members, and two public patrons
- Surveys—250 faculty respondents

Overall Characteristics

In addition to patron-specific insights, four key insights arose from the engagements that stretched across patron groups.

1. Differences across disciplines impact how and where patrons conduct research and scholarly work.
- Students and faculty in STEM frequently cited labs and offices as preferred physical locations for their day to day activities whereas those in Arts & Humanities cited the libraries and offices as their laboratories.

2. Patrons feel a greater sense of community and identity at smaller, subject-specific library locations.
- Students and faculty claimed that smaller library locations facilitated building relationships with staff as well as orienting them to spaces and collections.

3. Patrons are eager to see the libraries improve through greater access to amenities and shared resources.
- Specifically, patrons expressed a need for greater access to power, as well as a desire for access to food and drink. Requests for more comfortable and/or flexible furniture were common.

4. Patrons are often confronted by the physical inaccessibility of library spaces and expect the libraries to remediate this in the future.
- The topic of physical accessibility to spaces, services, and collections was discussed with great concern for the current state and excitement for the future.

On the following pages, the four sections describe patron-specific key insights.
- Undergraduates
- Graduate and Professional Students
- Faculty
- Public Patrons

UNDERGRADUATE STUDENTS

Engagement
- Town Hall with 16 participants
- Intercept Interviews conducted in six campus locations

1. Undergraduates use the libraries as a de facto office—a space where they are expected to study and work towards their academic success.

2. Undergraduates strongly associate the libraries with quiet spaces for study and thus are hesitant to use library spaces for collaborative study if they feel they will disturb others.

3. The library is a communal study space for undergraduates who find that working alongside their peers is motivating.

4. Undergraduates choose library locations based on convenience factors. Those factors may include the location of the library, proximity to other amenities, and the hours of operation.

5. The academic calendar will drive undergraduate students to seek out quiet study space and support wherever they can find it.

GRADUATE & PROFESSIONAL STUDENTS

Engagement
- Focus Group with 10 participants
- Student Community Focus Group with 1 graduate student
- User Experience Workshop with 6 participants

1. While graduate students have access to shared office space to complete individual work, they depend on library spaces for various teaching activities, such as consulting with students.

2. Graduate students choose library locations based on the resources they provide. Those resources may include the types of spaces, collections, staff expertise, and general culture of that library.

3. In addition to providing quiet study spaces, graduate students also view the libraries as places for collaborative study; however, they may be more likely to default to quiet even in spaces designed for collaborative work.

4. The variation between graduate, professional, and PhD student programs requires these students to access different types of spaces to accomplish their work.

5. Similar to faculty and influenced by discipline, graduate students noted a preference for immediate access to physical collections.

FACULTY

Engagement
- Survey with 250 respondents
- Focus Group with seven participants
- User Experience Workshop with 6 participants

1. For faculty, the libraries are a source of inspiration and motivation, and are symbolic reminders of their colleagues' scholarly work.

2. Although equipped with office space, faculty often turn to the library to avoid distractions in order work and, thus, seek out quiet, individual spaces.

3. Faculty are digital first; however, disciplines influence how frequently they use physical locations and collections.

4. Faculty are consistently satisfied with the physical service interactions they have but are often frustrated by the digital ones.

5. Despite inevitable changes, faculty maintain the same level of expectations with regards to spaces and services that they formed from their first interactions with libraries.

PUBLIC PATRONS

Engagement
- Town Hall with two participants

During discussions with two public patrons at an open Town Hall event, it was revealed that:
1. Public patrons use the libraries to conduct research and access resources that have not been made available to them elsewhere.

2. UW-Madison librarians have been instrumental in helping public patrons progress with their research.

3. Public patrons are unaware of additional library services beyond access to resources and spaces.

4. Public patrons value the relationships they build with library staff in the advancement of their work.

3.2.3   Employment

From November 2016 to February 2017, the consultants engaged UW-Madison library staff to uncover key insights into current staff behaviors and future needs. A summary of the engagements specific to staff insights and the number of participants is listed below (note: this list includes several of the same engagements listed in the previous section. Patron-only engagements have been explicitly excluded from this list):

- Tours—17 library locations, each tour lasting between half an hour and three hours
- Interviews—Six library leaders, five campus leaders
- Meetings/Workshops—Three library committees, 12 library staff, nine academic staff, one staff UX workshop, and four Thematic Visioning Workshops with library representatives from all libraries in scope
- Town Halls—50+ library staff

LIBRARY STAFF

1. Library staff both want and need collaborative work environments to be more effective and connected to their colleagues.
2. During renovations, patron spaces have historically been prioritized over staff spaces; the Facilities Master Planning project is an ideal opportunity to reconsider staff space needs.
3. Library staff at satellite library locations often sacrifice time and energy to collaborate with colleagues at centralized library locations.
4. Partnerships complement library staff roles and responsibilities while promising robust services to patrons.
5. Library staff engage in a variety of activities and require flexible, differentiated spaces in order to successfully accomplish their tasks.

Total Library Staff and Future Projections:

As of May 2017, the General Library System reports between 220-230 FTE, including temporary project positions. The expectation for five years into the future is that staff numbers will remain relatively unchanged, predicting FTE between 215-220. It is anticipated that while the nature of the work will shift, from managing local collections to facilitating inter library loans, from managing physical collections to digial resources, the number of staff required will not decrease over the planning time frame.

The GLS employs both library staff and student workers to fulfill front-of-house and back-of house duties and responsibilities. For the purposes of this master plan, staff were considered generally in terms of space needs and requirements. Specific space was not assigned to student workers due to the fact that they work primarily at service points, which will be counted towards common processing and work spaces.

3.2.4   Programs/Services

In order to assess the current state of services within the libraries, the consultant team met with the same user groups mentioned in Section 3.2.2 of this report. Additionally, findings were discussed and vetted with both the Steering Committee and Working Group during in-person meetings and workshops.

Currently, although services offered by the libraries are valued by patrons, many service points and offerings remain hidden and less accessible than desired by users. In order to increase the value and efficiency of services, the libraries are looking to adopt a new service delivery model that will prioritize interactions over space maintenance.

The following five key insights highlight the current state of services at the UW-Madison libraries.

1. Research services remain hidden and less developed than teaching and learning services, which are more evident throughout the libraries.

2. The libraries are in the process of adopting a new service delivery model to more effectively and efficiently address patron needs with existing or fewer staff.

3. Certain types of spaces are valued as a service by library patrons and are drawing people into library spaces.

4. Library staff expertise is highly valued and appreciated by all types of patrons.

5. Partnerships with non-library entities are a proven success.

The library currently maintains relationships with the following partners:

- DoIT Computer Lab
- BioCommons
- Open Book Café
- DesignLab / Media Studios
- WisCEL
- GUTS
- Writing Center
- Cross-College Advising Service
- University Health Services
- Google Books Library Project
- Friends of the Library
- UWPD Community Officer
- GLIFWC & LICGF
- SOAR
- International Student Services
- UW Press

3.2.5 Program/Services Prioritization and Programs/Services Targeted for Growth or Reduction

Utilization data, user research and the GLS ongoing consolidation initiative have uncovered several areas targeted for growth or reduction, namely: print management and storage, service delivery, instruction, partnerships, and events. Details on these anticipated changes can be found below.

Print Management and Storage
In order to develop and grow collections to support the research, teaching and learning needs of the university, the GLS has identified the following areas for prioritization, growth and reduction:

- Reducing surplus materials throughout the campus libraries that are thought to be redundant or unnecessary.

- Consolidating print collections into fewer locations on campus and allocating little-used print materials to off-campus storage facilities   [source: Consolidation Report 2015]

- Developing a pilot program to deliver books directly to campus offices for faculty and academic staff (currently in place at Steenbock Library).

- Increasing virtual delivery of library resources, services, and support, particularly the ability to browse collections digitally.

Service Delivery Model

Since 2016, a committee within the GLS has been in the process of reviewing its current service delivery framework and developing a new service delivery model. The committee is expected to make recommendations that will result in a decrease in physical service points while increasing specialized research services.

Instruction

While the number of annual face-to-face library consultations and instruction sessions are expected to remain flat, as has been the case for previous years, the number of online library sessions is expected to grow. In order to facilitate such online sessions, library staff require small, private spaces that are quiet and outfitted with appropriate technology.

Partnerships

The libraries are seeking to develop new and leverage existing partnerships to provide additional teaching and learning opportunities by:

- Creating additional Wisconsin Collaboratory for Enhanced Learning (WisCEL) spaces within the Libraries to provide support active learning pedagogies.

- Increasing student success services within the libraries to meet students where they are and offer a more seamless service experience.

- Increasing access to Division of Information Technology (DoIT) services that can offer technology support to library patrons.

Events and Programs

Special and archival collections are well-respected by peer institutions and the public. To that end, the libraries aim to further showcase and highlight these collections to increase access and enhance patron research endeavors.

THEMATIC VISIONING

The consultants conducted four separate Thematic Visioning Workshops, dividing the libraries up into the following categories for the purpose of informed discussion: STEM, Patron-Specific, Social Sciences, and Arts and Humanities / Special Collections and University Archives. For each workshop, there were between seven to ten senior library staff members representing each one of the libraries covered in the scope of this project.

Each group discussed and agreed upon five images that represented the current state of their libraries and four that represented the future. Additionally, the groups highlighted key elements pertaining to collections, spaces, services, and partnerships that should be maintained or developed for their libraries in the future. (Full results for both activities can be found in the Appendix.)

Of note are the following characteristics across library groups that were identified as either required or requested in order to ensure success in the future:

Art and Humanities Libraries / Special Collections / Archives

- Collections: Physical access to collections, as well as security and climate control for sensitive and valuable materials

- Spaces: Exhibition and event space

- Qualities: Visible service points

- Services/Partners: Continued DoIT presence; IT support; and filming and recording technology; Research Data Services

Patron-Group Specific Libraries

- Collections: Access to reserves; some libraries require physical access to collections

- Spaces: Enclosed and private spaces for consultations and/or group work; exhibition space

- Qualities: Centrally-located service point, as well as a welcoming and accessible environment

- Services/Partners: Student support services (i.e. the Writing Center), as well as access to AV technology (filming, recording, and video conferencing)

Social Science Libraries

- Collections: Access to reserves; on-site access to physical materials is currently necessary for Social Work (but could be digitized in the future); Business requires on-site access to digital materials

- Spaces: Enclosed and private spaces for consultations; lab space for graduate students

- Qualities: Convenient and immediate staff support

- Services/Partners: Computer terminals with specialized software; DoIT; and IT help

STEM Libraries

- Collections: Access to reserves; on-site access to physical materials is necessary for Math and Geology; other libraries require on-site access to digital materials

- Spaces: Enclosed and private spaces for consultations and/or group work; exhibition and event space; instruction and lab space; TA and faculty advising space

- Qualities: Visible service points

- Services/Partners: Computer terminals with specialized software; IT help; AV technology (filming, recording, and video conferencing); Research Data Services (RDS)

SUMMARY OF FINDINGS - GOALS & OBJECTIVES

The future of the UW-Madison Campus Libraries requires a shift from serving as a repository for books to a campus hub providing exemplary services. Library leadership has recognized this critical need to prioritize space for people and services. To be sure, the future state of services at the libraries must start with a strong internal structure. With that in place, the libraries may begin to offer more accessibility to materials and expertise; more interdisciplinary services through strengthened partnerships; and more flexible and diverse spaces in which to promote research, teaching, and learning. The following five key insights highlight the future direction for services at the libraries.

1. **Delivering exemplary services requires the libraries to build a strong internal foundation that connects staff more fully to one another.**
   - In expressing their vision for the future of their libraries, staff discussed the need to be less siloed and more connected to one another, working together towards common goals. A desire to be more organized and centralized was noted, as well as the ability to be adaptable and flexible to accommodate change. Such strengthening of the internal structure would allow staff to deliver a seamless experience for their patrons.

2. **Offering more accessibility to both materials and expertise requires increasing the visibility of both while also maintaining the strong sense of community the libraries have worked hard to develop.**
   - Certain disciplines will require the immediate accessibility of their materials, such as Math, while others depend on the browsability of their collections for research purposes, such as the humanities. Opportunities to digitize the browsing experience, and the success of the technology, remain to be seen; however, increasing the visibility of unique holdings, such as Special Collections and University Archives, will assist scholars in the research process while also setting UW-Madison apart from its peers. Continuing to foster a sense of community will encourage a sense of belonging for patrons and increase library usage. Such nurturing of their patrons is important to library staff as they see their role as instrumental in the research lifecycle.

3. **Leveraging partnerships with academic departments and targeted student services will increase interdisciplinary learning opportunities.**
   - When entering into such arrangements it will be critical for the libraries to seek out those partners who share a core mission. Examples of existing partnerships to continue, and new ones to cultivate, include: tutoring and writing services, Research Data Services (RDS), grant writing support, IT support, and DoIT. Such partnerships will align the libraries to campus priorities, supporting collaboration between and among the disciplines.

4. **Serving as a connector of people can also enhance collaboration to further support research, teaching, and learning.**
   - STEM library staff see the future of the library as a "facilitator" or "collaborative leader," bringing together a diversity of people and disciplines in their research and work. Due to its interdisciplinary nature, the library is in the unique role to function as a coordinator, bringing patrons to one another within and outside the library ecosystem. Indeed, library leadership has highlighted the need for a global orientation, taking advantage of resources and expertise outside of UW-Madison.

5. **Supporting new ways of teaching and learning requires offering new technologies and new types of spaces.**
   - Library staff recognized the urgent need to offer access to and support for new technologies, such as video conferencing, video/podcast studios, tech sandboxes, and other types of labs in which to experiment and produce work. In many cases, offering a new type of space is a valued service. Staff indicated that providing both variety and flexibility in spaces and seating is critical to supporting the fluid research, teaching, and learning needs of their patrons. Such flexibility can help them more easily adapt to changes in technology in the future. Staff also noted a need for spaces that (a) can accommodate large and small groups; (b) are available for short or long periods of time; and (c) serve multiple purposes.

Library leadership and staff envision a future in which all of the aforementioned priorities are enacted in service of inspiring discovery, creativity, and academic achievements. Ultimately, the library's role is to serve as an instrument for producing work, whether it's within the realms of research, teaching, or learning.

3.3 External Partners

The **Wisconsin Historical Society** (WHS) headquarters building, located prominently on the west side of Library Mall facing Memorial Library, is not directly affiliated with either Campus Libraries or UW-Madison. The WHS Library and Archives serves as the North American history research center for the University of Wisconsin-Madison and the State of Wisconsin, and provides access to collections owned by the Wisconsin Center for Film and Theater Research. These collections, coupled with the iconic and popular historic reading room, integrate this resource into the overall campus culture.

As part of the libraries print management program, the libraries participate in several shared print projects to ensure access to print material held at other institutions. The **Committee on Institutional Cooperation** (CIC) is a consortium of the Big Ten Universities plus the University of Chicago which agrees to hold a shared print copy of items such that each insitution no longer need to keep an individual copy. Similarly, the libraries are partnered with the University of Iowa and Iowa State in the creation of a **Distributed Print Repository**. The libraries also participate in the Center for Research Libraries JSTOR Print Archive. (JSTOR is a digital library for scholars, researchers, and students.)

Space Needs Analysis and Benchmarking

Section includes:
4.1 Space Inventory
4.2 Utilization and Demand Analysis (Space, Collections, Instruction and Seats)
4.3 Benchmarking: Existing Space Relative to Standards and Peer Institutions
4.4 Trends and Projections or Global Space Needs

Introduction
This chapter provides an inventory of the libraries' spaces and analyzes patron activities to better understand their behavior and how and to what degree they use the current space. The chapter assesses whether the spaces are sufficient to adequately meet the needs of patrons and compares it to existing standards and peer institutions. With the rapidly changing nature of research, teaching, and learning, academic libraries are in the midst of significant transformation in their physical organization and design. Standards and peer comparisons must always be contextualize with the specific needs of the university, the library system's role within the university, and its vision for its future. The last section discusses the future projected space demand based on demand analysis, best practices, and the library's future vision.

4.1 Space Inventory
As part of the facilities condition assessment, each space in each library was identified as supporting one of five assignable library uses; public, partner, user, collections, and staff. The detailed colored plans are included in the appendix, a summary of the assignable space inventory is below. (**Table 4.1-A**).

Table 4.1-A: Assignable Space in Square Feet by Use Category.

LIBRARY	Public	Partner	User	Collections	Staff	Total ASF
Art Library	0	0	4,551	7,447	1,044	13,042
Astronomy Library	0	0	682	1,030	267	1,979
Business Library*	974	0	28,292	944	1,548	31,758
CCBC	341	0	2,295	1,057	1,059	4,752
Chemistry Library*	0	0	4,472	0	364	4,889
College Library	0	12,438	63,683	6,222	9,230	91,573
Geography Library	0	0	3,584	3,433	1,145	8,162
Geology Library	0	0	2,440	5,266	808	8,514
Health Sciences*	1,596	0	20,871	9,733	7,094	39,294
Law Library	0	0	15,897	30,310	7,644	53,851
Math Library	0	0	3,070	2,958	506	6,534
Memorial Library	10,140	6,828	64,500	180,541	60,011	322,020
Mills Music Library	0	0	4,598	9,764	1,731	16,093
Special Collections	2,765	0	1,722	14,001	3,601	22,089
MERIT	0	0	9,574	4,048	4,966	18,588
Physics Library	0	0	2,739	3,154	518	6,411
Social Science Library	0	0	1,935	309	608	2,852
Social Work Library	0	0	1,504	1,893	455	3,852
Steenbock Library	0	9,791	23,718	23,450	8,336	65,295
UW Archives	0	0	1,415	10,460	1,535	13,410
Wendt	0	0	8,244	5,006	1,389	14,639
TOTAL	**15,816**	**29,057**	**269,786**	**327,254**	**113,859**	**755,772**

* Note that Chemistry, Health Sciences and Business calculations are based on current designs for future spaces.

4.2 Utilization and Demand Analysis

In seeking to understand how and why patrons are using library spaces, data was collected on: (a) space usage; (b) collections usage; (c) instruction and consultations rates; and (d) seat usage. This data has provided insights into patron behavior within a library space, such as whether they are interacting with the collections, using space to study, attending classes, seeking assistance from library staff, or a combination of the above. Findings from the data have been used to determine recommended changes and alterations to the libraries' spaces.

SPACE USAGE

Data Analysis Approach

Data was collected and analyzed with regard to the size of each library (net square footage or NSF) and gate count in order to better understand library space usage. Gate count measures the number of individuals entering the library. Comparing gate count to the physical size of a library demonstrates the efficiency of the library's space and its potential value as user space when accounting for circulation use.

The following table (**Table 4.2-B**) presents the ratios comparing gate count to net square footage (nsf), in descending order. The period of October 2015 was chosen for the analysis of several data points due to data availability issues. (This was the period for which the majority of data points were available for the maximum number of libraries.) Gate count was not available for all libraries in the scope of this project, including: Astronomy, Cooperative Children's Book Center, Law, Music, Physics, Special Collections and Wendt.

Table 4.2-B: Space Usage for October 2015 as Ratio of Gate Count to Net Square Feet

LIBRARY	Gate Count / NSF
Business	2.67
Social Science	2.39
Chemistry	2.26
Math	1.42
College	1.35
Health Sciences	0.69
Steenbock	0.63
Social Work	0.54
Geology	0.45
Geography	0.43
MERIT	0.40
Art	0.33
Memorial	0.22

Insights

The Chemistry Library had already begun the process of re-envisioning its spaces at the time the data was collected in October 2015, removing the majority of its collections and transitioning to a different service model. Since that time, both Business and Wendt have undertaken space and service changes, such as consolidating their collections. It is important to recognize these consolidation efforts when analyzing space usage.

Business and Social Science saw the most visitation in relation to their physical size, indicating that there is a high usage of their space by patrons. Noting that Business also demonstrated low collections usage (see Table 4.2-C for data on collections usage for all libraries), patrons may be frequenting the Business Library for use of its space. However visitation to the Business Library may also be driven by access to digital resources that are only available onsite, for example the three terminals with the Bloomburg database. As the largest library in the scope of this project, Memorial Library saw the lowest visitation per area, but this may be due to its large size of 322,109 net square feet.

COLLECTIONS USAGE

Data Analysis Approach

The relationship between collections utilization data and gate count was analyzed in order to better understand the activities taking place in the libraries' physical spaces. Collections activity compared to gate count provides a general sense of how patrons might be using a library once they have entered the space. A lower ratio of collections utilization to gate count indicates the space is being used more as a service for work or study and not specific to collection utilization.

The table below (**Table 4.2-C**) presents the raw data as compiled with assistance from GLS staff. The table includes the following data for each library: the size of collections as well as calculated gate, browse, and circulation counts for the time period. As discussed previously, the period of October 2015 was chosen for analysis due to inconsistent and missing data for the libraries during other periods.

Table 4.2-C: UW-Madison Libraries Utilization Analysis- October 2015

LIBRARY	Collections	Gate Count	Browse Count	Circulation Loans	Circ. Reserves
Art	195,898	4261	1,234	924	52
Astronomy*	13,604	n/a	19	24	59
Business	71,564	82,288	186	105	1,934
Chemistry	35,841	10,938	65	-	217
College	87,581	126,684	936	4,221	1,626
Geography	57,923	3,519	344	285	77
Geology	106,864	3,798	271	82	104
Health Sciences	299,898	27,102	2,536	510	170
Law*	339,244	n/a	945	1,902	426
Math	55,037	9,270	187	339	235
Memorial	3,991,598	71,838	13,864	10,433	-
MERIT	64,080	7,510	2,382	1,287	350
Music*	294,728	n/a	2,141	1,169	22
Physics*	48,871	n/a	122	148	115
Social Science	7,721	6,826	17	28	228
Social Work	28,763	2,094	155	144	91
Special Collections*	109,784	n/a	-	-	-
Steenbock	383,111	41,880	1,025	1,085	455
Wendt*	135,082	n/a	381	498	397

Notes:

* Gate count is unavailable for these libraries

Table 4.2-D is a set of ratios comparing the number of patrons entering the library (gate count) to browse and circulation counts.

Table 2.4-D: UW-Madison Libraries Utilization Analysis- October 2015

LIBRARY	Browse : Gate	Circulation : Gate	Circ. Reserves : Gate
Art	0.29	0.22	0.01
Astronomy*			
Business	0.00	0.00	0.02
Chemistry	0.01	0.00	0.02
College	0.01	0.03	0.01
Geography	0.10	0.08	0.02
Geology	0.07	0.02	0.03
Health Sciences	0.09	0.02	0.01
Law*			
Math	0.02	0.04	0.03
Memorial	0.19	0.15	-
MERIT	0.32	0.17	0.05
Music*			
Physics*			
Social Science	0.00	0.00	0.03
Social Work	0.07	0.07	0.04
Special Collections*			
Steenbock	0.02	0.03	0.01
Wendt			

Notes:

* Gate count is unavailable for these libraries

Insights

The Art, MERIT and Memorial libraries demonstrated a higher usage of their physical collection. Data from Tables 4.2-A and 4.2-C indicate that patrons are visiting these libraries more often to access physical materials compared to other libraries in the study. These libraries will require that more of their collection be retained within the libraries than the collections of other libraries that fall in the scope of this project. Conversely, the Business , Social Science and College libraries demonstrated low usage of their physical collection, and do not require as much on-site collection space in their libraries. However, Business Library has significant digital collections that are only available on site, which is also an important factor in visitation compared to other libraries. (These were also the libraries with mid to high visitation rates as noted in Table 4.2-A.) Conversations with Business library staff have also indicated that patrons visit the library for access to digital collections due to licensing restrictions .

INSTRUCTION AND CONSULTATION

Data Analysis Approach

Available data was collected on the number of group instructional sessions and individual consultation sessions during the academic year 2015-2016 for many of the libraries in scope. This data was analyzed to better understand the frequency at which libraries are providing group instruction and individual consultation so that future library spaces can accommodate these classes and interactions.

Table 4.2-E presents the raw data as compiled with assistance from GLS staff. Sessions by library were pulled based on the librarian instructor's home library. Library staff record a library instruction entry each time they provide research/information literacy instruction or otherwise have a prescheduled visit with a course, group, or individual. The table provides: the number of group instructional sessions, the number of individual instructions sessions, the number of sessions library staff conducted outside their home library, and the number of online sessions.

Table 4.2-E: Instruction and Consultation, 2015-2016

LIBRARY	Total Group Instructional Sessions	Total Individual Consulatations	Number of Sessions Held in Non-Home Library	Number of Sessions Taught On-line Only
Art	91	38	1	6
Astronomy*				
Business	67	58	0	0
Chemistry	34	4	3	0
College	455	16	52	2
Geography	15	2	8	0
Geology*				
Health Sciences	549	350	1	6
Law	54	11	1	0
Math*				
Memorial	328	88	5	15
MERIT	34	9	0	0
Music	43	19	0	0
Physics*				
Social Science	38	0	28	15
Social Work	6	6	0	0
Special Collections	83	11	2	0
Steenbock	198	22	3	0
Wendt	98	31	1	4

Notes:

* Data is unavailable for libraries noted

Table 4.2-F compares the number of face-to-face group instructional sessions to the total number of individual face-to-face consultations and vice versa.

Table 4.2-F: Instruction and Consultation , 2015-2016

Library	Group Instruction: Individual Consultation	Individual Consdulal Consultations: Group Instruction
Art	2.39	0.42
Astronomy*		
Business	1.16	0.87
Chemistry	8.50	0.12
College	28.44	0.04
Geography	7.50	0.13
Geology*		
Health Sciences	1.57	0.64
Law	4.91	0.20
Math*		
Memorial	3.73	0.27
MERIT	3.78	0.26
Music	2.26	0.44
Physics*		
Social Science	38.00	-
Social Work	1.00	1.00
Special Collections	7.55	0.13
Steenbock	9.00	0.11
Wendt	3.16	0.32

* Data unavailable for these libraries

Insights

In comparing group instruction to individual consultation (**Table 4.2-F**), the data indicate that Social Science and College libraries have significantly higher frequencies of group instruction, whereas Business, and Ebling libraries show a higher frequency of individual consultation. Social Work shows an even split between group instruction and individual consultations. Libraries with higher group instruction needs require spaces to accommodate classes, whereas libraries with higher individual consultations require smaller spaces for such interactions. Indeed, Social Science and College libraries reported higher numbers of sessions occurring outside the home library (**Table 4.2-E**). Further conversations with library staff who gathered this data noted that these non-home library sessions often occur when the home library does not have enough space to offer such sessions. The data indicates that both Social Science and College libraries need additional classroom space to accommodate group instruction needs. Discussions with staff indicated that classrooms to seat 30 students and a flexible space that would seat 50-75 students would meet their current and future needs.

Social Science, Art, and Memorial libraries all report higher numbers of online interactions (**Table 4.2-E**). According to library staff, online sessions are predicted to grow in the future while the frequency of face-to-face consultations and instruction are expected to remain unchanged. An increase in online interactions manifests in a need for private spaces equipped with the necessary technology and acoustics to record or stream audiovisual content.

SEAT UTILIZATION

Data Analysis Approach

In an effort to determine if the libraries were providing enough seats to meet patron demand, data was collected using two different methods to understand seat utilization. This data also provided insights into peak usage periods, such as evenings or weekends, and whether or not the libraries had met maximum capacity during these peak periods.

Infrared Analysis: Gate Count

Using a new system for tracking gate count that employs infrared technology, several of the larger libraries have been reading patron traffic (entrances and exits) and calculating the number of patrons remaining in the building. This system allows the libraries to understand more accurately the purpose of a patron's visit: whether it is short term (to return or pick up a book) or remain for a longer period of time to study or research. This data was made available for Memorial Library for February 2017 and for College and Steenbock libraries for February 2017 and April 2017. (Data for Memorial Library was not available for April 2017 due to a broken counter.)

Calculations looked at the number of people remaining in the building in relation to the number of seats available in each library, determining how many seats might be used at any given time in these libraries. A summary of the analysis can be found in **Table 4.2-G** detailing the highest in-building usage as a percentage of total seats available. Weekdays and weekends were analyzed separately. Data illustrates the low and high numbers for set time periods in intervals of 3 hours for a 12 hour span: 9am, 12pm, 3pm, 6pm, 9pm; and represent how many used and unused seats were available at slow and busy times within the library.

Table 4.2-G: Summary of Infrared Analysis, February and April 2017

Library Date	Day Time	**Total** Seats Available	**Highest Count** People In- Building	**Highest Percentage** Seats likely Occupied	**Montly Average** People In- Building	**Monthly Median** People In- Building	**Average Percentage** Seats likely Occupied
Memorial 2/12/2017	Sunday 3:00 pm	2,338	714	30.5%	231	244	9.9%
Steenbock 2/12/2017	Sunday 3:00 pm	964	274	28.4%	86	85.5	8.9%
Steenbock 4/02/2017	Sunday 3:00 pm	964	305	31.6%	97	100	10.1%
College 2/27/2017	Monday 8:00 pm	2,058	1,216	59.1%	327	273	15.9%
College 4/02/2017	Sunday 3:00 pm	2,058	1,232	59.9%	393	361	19.1%

On Site Survey: Seat Occupancy Counts

The consultant team worked with the libraries to perform on site counts of seats in use during the Spring 2017 semester, selecting a slow day and a peak day for comparison. The results are included in the **Table 2.4-H** below and align with the infrared analysis previously discussed.

Table 4.2-H: Observational Count of Occupied Seats

LIBRARY	Seats	Friday April 28, 2017 Slow day in a slow week			Friday May 5, 2017 Peak Day: Study Day prior to exams			
		1 PM	4 PM	1<CLOSE	1 PM	4 PM	8 PM	10 PM
Memorial/Music/SC	2,521	259	246	145 @ 8	807	1,009	892	
College	2,058	297	377	298 @ 10	1,075	1,217	1,172	1,320
Steenbock/Archive	996	59	78	120	264	276	-	-
Art	112	18	14	-	28	26	-	-
Astronomy	19	-	-	-	4	5	-	-
Business	639	73	31	-	133	150	-	-
Geography	124	9	2	-	33	15	-	-
Geology	83	15	4	-	17	19	-	-
Health Sciences	374	98	-	-	153	136	-	-
Law	632	74	63	-	67	59	-	-
Merit	318	14	25	-	55	54	-	-
Physics	79	13	8	-	12	12	-	-
Social Science	78	19	13	-	21	24	-	-
Social Work	76	8	2	-	16	4	-	-

Note: Date was not collected at Wendt, Math or Ebling.

Insights

Memorial, Steenbock and College saw the heaviest usage on Sunday afternoons, particularly around 3:00 PM. Seat utilization estimates did not rise above 60%, indicating there are more than enough seats for demand. On average, seat usage is estimated between 9-19% of total seats available. Although the data indicates a low utilization rate of seats, this contradicts the qualitative research and anecdotal evidence that was collected by various patrons and library staff that finding a seat in the libraries was difficult to impossible during peak times. The data collected indicate that seating is more of an issue of quality over quantity. Better quality seating that is more appropriate to the working styles of today's patrons would increase utilization rates without needing to increase quantity of seats.

Data specific to College, Memorial and Steenbock libraries follows:

College

Observations of the libraries concluded that more chairs are placed at tables than is considered comfortable by patrons. At College Library, staff have noted that "most four-person tables have six chairs and two-person tables have four chairs. Sometimes tables are completely full, but rarely do people use all the chairs at every table." True capacity is estimated at somewhere between 50 to 75 %. At 50% effective capacity, College has 1029 seats, and at 75% capacity, it would be 1545 total seats. This would make utilization at effective capacity close to 100% at peak times.

Memorial

Occupancy rates are lower at Memorial than College. Observations and user comments suggest very poor wayfinding and navigation contribute to the low utilization rates. Seats are dispersed throughout the building and distributed across multiple floors, making it potentially time consuming to find an available seat. In addition, the learning environment is not adequate in terms of quality of seating, work surfaces, and environmental support, such as proper lighting and availability of power. (See **Tables 4.2-G and 4.2-H** above) Due to these factors, the low utilization rates as indicated by data are not reflective of demand.

Steenbock

Low utilization rate compared to College and Memorial may be due in part to its location in a less dense and trafficked area of campus. Unlike Memorial, seating in Steenbock is highly accessible and visible and consequently issues in wayfinding are not contributing to the utilization rate. Observations did show that patrons occupied seating in the BioCommons before other areas of the library Based on user research data gathered, the type of seating in the BioCommons- flexible, available power, easily configured for collaborative work, appears to be more effective for work.

Estimating Seating Demand

One of the most important drivers for library projects is often the amount of user seating provided. The complexity of answering this question is two-fold. First, some institutions work toward a specific target (expressed as a percentage of their population) whereas others simply try to maximize the amount they can provide, knowing that whatever they provide will be needed and used. Second, campuses have evolved to provide a range of places to learn and study. More information and services are now available online such that many of the activities that might have once only taken place in the library can now happen anywhere, however library space is highly valued commodity for it's seriousness of purpose. Appendix 1 details the qualitative perceived differences between library space and other informal learning space on campus.

As a result, there is no universally trusted standard or formula to compute the target amount of seating and previous standards (i.e., the Association of College and Research Libraries) have since been rescinded. Most institutions address appropriate seating amounts through a combination of (a) careful consideration of the campus as a whole, (b) analyzing how they compare to peers, and (c) their observations in the utilization of current library spaces.

As the role of the library changes, all of these questions are very relevant. Beforehand, when the library had a near monopoly on information and study, the calculation could be reduced to a single number from the rescinded ACRL standard – seating for 25% of the students – a significant amount in comparison to what most large research universities provide today.

One standard that does exist but is not widely applied or endorsed is that of the Council of Educational Facility Planners International (CEFPI, 2006) which recommends campus-wide seating for a minimum of 15% of the full-time equivalent (FTE) undergraduate students, 20% of FTE graduate students, and 10% of FTE faculty at 35 SF/seat. (Note that the CEPFI recently rebranded as "The Association for Learning Environments" or A4LE.)

At relatively urban universities where students have a good selection of places to study across the campus, the recommendation is the institution target minimum seating for 10% of the student population.

Applying various standards, global demand for seating at the UW-Madison libraries would be as follows:

	FTE	CEFPI (15%)	10%	15%	20%
Undergraduate	*28,522	4,278	2,852	4,278	5,704
Graduate	*6,239	1,248	623	936	1,248
Faculty	2,057	411	n/a	n/a	n/a
Total		5,624	3,475	5,214	6,952

* Source: IPEDS: 12 month FTE for 2013-2014

Current count of seats available in the libraries included in this study is 8,348 or 20% , well above these standards.

4.3 Benchmarking: Existing Space Relative to Standards and Peer Institutions

In order to provide the context for current space utilization for library systems in public research universities, a benchmarking exercise of peer institutions was conducted. The benchmarking can provide context and support for the needs and vision based programing developed as part of this master plan. The benchmarking included both space utilization, by seats and program category, and library campus planning.

Peers
The peers selected for comparison included the main campuses for the University of Minnesota, University of Washington, Ohio State University, University of Texas, University of California Berkeley, and University of Michigan. Library leadership selected these peers as representative peer public institutions of similar size with Carnegie Classifications as "Research Universities- Very High" (RU/VH).

Data Collection
The scope of the benchmarking was limited to readily and publicly available data. The primary source for seating and space utilization was the 2013-14 facilities survey conducted by the Association of Research Libraries. Information for campus planning was sourced from publicly available online data online, and verification of the information through interviews or questionnaires was not part of the scope. The University of Michigan did not participate in the 2013-14 facilities survey, and consequently reporting and analysis for University of Michigan is limited to campus planning. However, the University of Michigan did provide an estimate of library seating counts in their online information.

The ARL facilities survey provided total seat counts for the library systems as well as net square footage by the following categories: Seating, Classroom, Collections, and Other. It did not include a breakout by the functional categories defined by the National Center for Education Statistics (FICM categories). The survey included a question about whether the system foresaw the number of locations changing in the future, but did not ask for specifically for the number of current or future locations.

The current library locations were determined through online research, although the list is not exhaustive. The locations were limited to those part of the library system and professional school libraries. It did not include affiliated and independent libraries and centers. This aligned most closely with the current study that focused on the General Library System and professional school libraries. The location count did not include separate and remote storage. Further details about each location as well as campus maps are included in the appendix.

The benchmarking study used the UW data provided to the ARL survey rather than information in the master plan in order to ensure an equivalent comparisons across the peers. For example, the master plan used standard program categories rather than the unconventional ones used as part of the ARL survey.

Findings
Given the complexity and uniqueness of each library system and the institutions they serve, it is difficult to draw definitive conclusions from the data. However, findings related to the size and campus organization of the UW-Madison library system provide context for further investigation in the Master Plan. The findings for the library system are as follows:
• Large system overall: The UW-Madison system is largest both by total area, 829,339 nsf, and by student, 24 nsf per student (FTE), and second only to University of California-Berkeley in number of locations.
• Ample seating: The UW-Madison library system includes significant number of seats. 20% of students having a seat compared to a range of 7% to 16% for its peers.
• Equivalent collections space: Space devoted to collections was in line with its peers. 44% of total space devoted to collections compared to a range of 31% to 51% for peers.
• Main libraries at campus edge: For every peer institution, the main libraries are located at the center of campus generally. UW-Madison was an exception with its main libraries, College, Memorial, and Steenbock, located at the edge of the core academic campus.
• Reduced number of locations: No peer institutions anticipated increasing the number of locations. Two of the five, University of Minnesota and University of Texas, were planning on decreasing their locations.

Table 4.3-A: Benchmarking Summary; all data as included in the 2013-14 ARL facilities survey.

	University of Wisconsin-Madison	The Ohio State University	University of Texas Austin	University of Washington	University of Michigan Ann Arbor	University of Minnesota	University of California Berkeley
Institutional Information							
Total FTE	34,761	52,330	45,437	42,362	41,694	37,978	37,576
Undergraduate FTE	28,522	43,006	36,762	29,673	28,025	29,673	27,768
Graduate FTE	6,239	9,324	8,675	12,689	13,669	8,305	9,808
Space Utilization							
Total NSF	829,339	446,122	656,284	772,177	-	707,792	811,364
NSF per student FTE	24	9	14	18		19	22
Seating	237,122	126,059	145,092	229,523	-	150,290	234,965
% of total NSF	29%	28%	22%	30%		21%	29%
Classroom	48,707	24,098	4,118	19,254	-	55,530	26,590
% of total NSF	6%	5%	4%	2%		8%	3%
Collections	366,294	205,483	399,012	339,365	-	363,544	387,668
% of total NSF	44%	46%	31%	44%		51%	48%
Other	177,216	90,482	108,062	184,035	-	138,428	162,611
% of total NSF	21%	20%	14%	24%		20%	20%
SEATING							
Total seats	7,109	3,721	5,700	6,521	6,500	4,223	4,508
% of students w/seat	20%	7%	13%	15%	16%	11%	12%
Seating sf/student	33	34	25	35		36	52
CAMPUS PLANNING							
Total # of locations	17	-	10	12	12	12	19
Main Branches	3	-	1	2	3	2	2
Location Trend	Decreasing	Steady	Decreasing	Steady	-	Decreasing	Steady

4.4 Trends and Projections or Global Space Needs

The future space program (**Table 4.4-A**) was created through a combination of leadership vision, utilization data analysis, user research, and peer benchmarking. The space program was designed at the category level to set an overall vision for the system and evaluate each possible scenario, both by cost and impact. While data based and formula driven when appropriate, it takes into account various known factors as well as uncertainties about how libraries will function, and what patrons will need, in the future.

The master plan considers a significant re-envisioning of the library system both in terms of campus planning and the library system's operations. The scenarios in Section 6 articulate the new vision for campus planning and services, and consequently the programmatic needs cannot be considered separately from the scenarios. The constraints and needs of the scenarios factor into the program and adjust it accordingly.

Space Categories

Based on the specific needs of their operations, libraries use space categories that are different from FICM categories. The master plan will convert library space categories into FICM categories in the recommendations, but these are more relevant for the discussion and evaluation of the library's program and its impact on operations and meeting user needs. The categories are as follows:

Space Category	Example
Public Space	Lobbies, exhibit space, and auditoriums
Partner Space	Partner work areas, exhibition or event space primarily operated by partners
User Space	Collaborative and quiet study space, instruction spaces
General Collections	Collections and stacks, special collections and storage
Staff Space	Staff work areas, offices, service areas, meeting rooms, and processing spaces

Table 4.4-A: Current and Future Space Program

SPACE TYPE	Current ASF	% of Total	Future ASF	% of Total
Public Space	15,800	2.1%	43,900	8.0%
Partner Space	29,000	3.8%	65,000	11.9%
User Space	270,000	35.7%	263,800	48.1%
Collections Space	327,000	43.3%	123,800	22.6%
Staff Space	113,900	15.1%	51,900	9.5%
SUBTOTAL	755,700		548,400	
Remote On-Campus	16,900		11,500	
Remote Off-Campus	10,000		34,800	
SYSTEM TOTAL	782,600		594,700	*24% overall reduction*
Total seats	8,356		8,466	

Public Space

Utilization data for public programs was unavailable at the time of analysis. Calculations have been based on leadership vision, user research, and best practices among peers. Given that the university is a public institution, and the libraries have been charged with serving the public as a patron group, the future space program increases public space from 3.8% to 8%. Best practices among peers presents a range of 5 to 15% public space.

Within the 44,000 sf allocation, the folowing public spaces were anticipated at each hub library;
- 100- 500 sf   Exhibit area to showcase univeristy research and special collections
- 500- 2,000 sf   Library Cafe to serve the needs of longer visits
- 3,000- 8,000 sf   Event Space for both university and community programs

Partner Space

Calculations have been based on library leadership's vision for more partnerships to complement library services as well as examples among institutions leading the charge on public-facing libraries. Peer libraries allocate a range of between 10-15% towards partnerships. The Steering Committee set the future goal at 12% of total space, which more than doubles the current allocation.

While the needs of future partners cannot be determined at this time, the following examples could be provided within the 65,661 sf allocation, perhaps 20,000 sf at each of three hubs:

- 500- 2,000 sf   Makerspace
- 750- 3,000 sf   Digital Immersion Lab
- 1,000- 2,000 sf   Innovative Teaching and Learning Center
- 1,500- 6,000 sf   Digital Lab
- 5,000- 15,000 sf   Student Success Commons
- 5,000- 20,000 sf   Research Commons

User Space

The approach for calculating user space was driven by seat count and distribution across campus. Currently, 8,400 seats are available across all libraries, representing 20% of students enrolled in Fall 2015. As discussed in benchmarking section 4.4, this is ample seating in comparison to peers who range between 7% to 16% of students (FTE) and at the high end for library standards as discussed in Section 4.3 Demand Analysis, "Estimating Seating Demand". Utilization data indicated that there was a 60% utilization rate at times of peak demand. However, the user seating was of substandard quality. It often lacked power, provided insufficient surface area for how students currently work, and was difficult to find and access. The utilization rate may have been suppressed based on its unsuitability.

The Steering Committee determined that the existing seating inventory should be maintained in the future program. Library seats offer an opportunity not found elsewhere on campus and library spaces are highly regarded for their inspirational qualities and seriousness of purpose. Of the 8,450 seats in the program, 7,400 are provided in user space and 1,050 are provided by public and partner spaces.

To calculate area based on seat count, 35 nsf was assigned per seat to accommodate user needs and behaviors, i.e. maintaining comfortable physical distance at a table, and ensure long term flexibility. Pedagogies and learning needs will continue to evolve and change significantly over the 20 year length of this master plan. 35 nsf per seat accommodates individual study, group study space, and flexible instructional spaces without any loss of seats in changing use.

General Collections

The approach for calculating the future space program was based on the libraries' projected linear feet of physical items for the year 2037, converted back into net square feet (NSF), using 70% shelf capacity to enable ideal browsing conditions. Based on our analysis, many libraries showed a need for high browsability for accessible collections. In many libraries, the use of compact shelving is too dense to be suitable for browsing, the Art Library. The shelf capacity was determined to accommodate this need when appropriate and appropriately size remote storage. Details of the collections calculations can be found in Appendix 2.

Without a clear goal for the percentage of collections to be housed on campus versus remote storage, the planning remains flexible, allowing for any remaining available space in existing buildings (after all other programmatic needs were considered) to be allocated to collections. To size remote storage needs, any collections not held onsite would first move into existing remote storage and then be added to expanded and/or new remote storage facility, i.e. a Verona expansion.

Staff Space

During the time of this study, the library system began their project to rethink the future delivery of services in light of changing ways research is conducted and transition from physical to digital collections. Based on staffing shifts already underway as part of the consolidation plan, the library system's future service delivery model will most likely result in a shift of the roles of staff without any material reduction in total staff.

Calculations for staff space were generated using a population based forecast (per staff FTE). For the purposes of calculating staff space, it was assumed that there would be 0% growth in staff.

The space needs of the staff were calculated two ways. The first was based on UW System Administration standards for assigned (120 sf) and shared (30 asf) staff spaces with an additional allocation for special use spaces (17%). This netted 175 asf per full time equivalent staff and 35 asf per student staff. This fit within library planning standards based on work styles, and a blended number for individual work space, representing a mix of digital and paper based work.

This page is intentionally left blank.

Physical Environment Analysis

Section includes:

5.1 Site Conditions

5.2 Existing Facility Condition and Functionality Summary

5.1 SITE CONDITIONS

Given the nature of the GLS, spread across multiple planning districts, encompassing multiple facilities, and having multiple relocation, expansion, and renovation options, this section is organized from that broad campus level, to districts, and then to particular sites. An overview of campus adjacencies and districts is first. Specific sites are grouped by the districts in which they occur. Edges & gateways; image, identity and wayfinding; open areas; building forms; historic properties and landscaping are discussed for each.

Campus Level

5.1.1   (Institution or Sub Unit) Boundaries, Land Use, Adjacent Uses
Geographic Context
Perceptions & Operation Context of GLS
Campus Planning Context
Distribution of Library Space

Building/Site Level

5.1.2   Potential Building Sites, Boundary Changes and Expansion Potential
(Institution) Districts
Edges and Gateways
Topography and Storm Water Management
Image, Identity, and Way finding
Safety and Security
Open Space and Natural Areas
Recreation and Athletic Fields
Building Forms (building type, height, massing, materials)
Historic properties, archeological sites, districts, and landmarks
Landscape Treatments
Expansion Potential
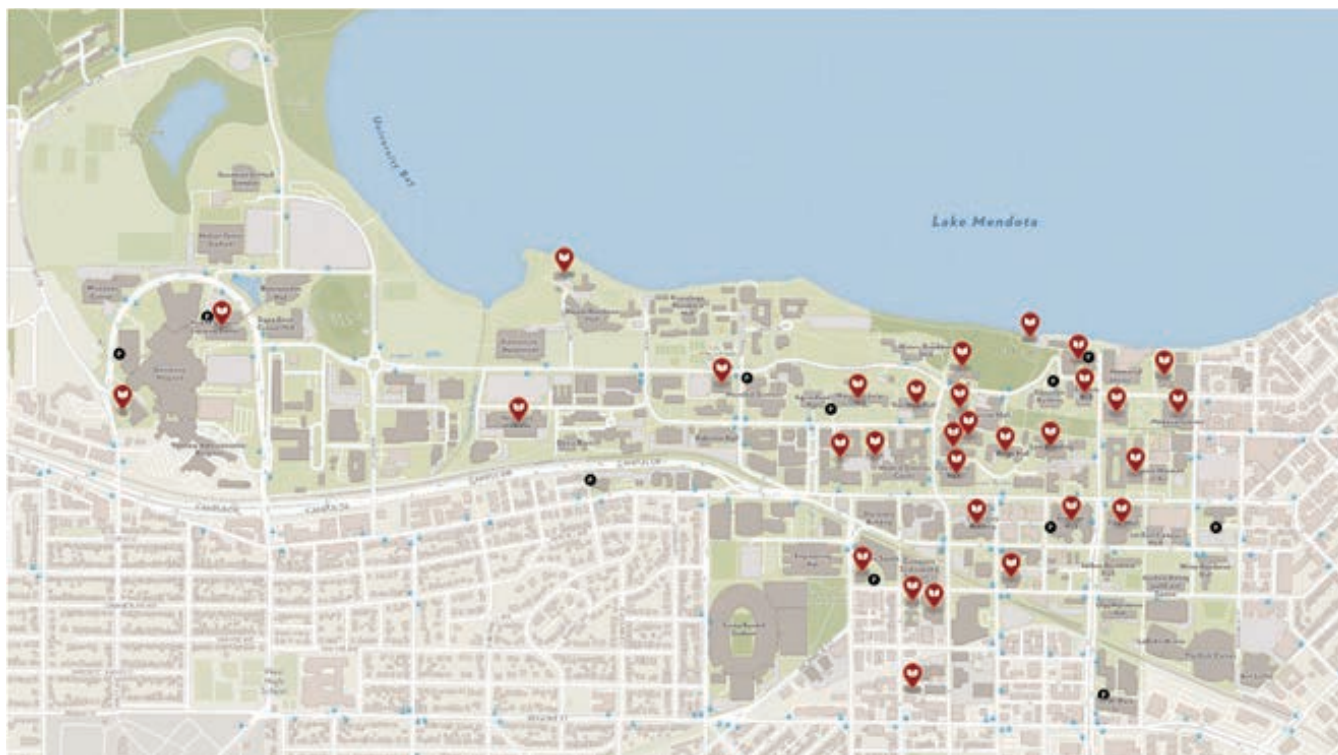
Figure 5.1-1: The perception of the "Library"

5.1.1   UW-Madison Campus Libraries, Adjacent Uses

Context
Geographic Context
Site conditions are explored first in a campus wide context. Geographic distribution of the library space is rooted in the historic development of the campus and does not follow current or anticipated patterns of use or development. Proposed shifts in the distribution of library resources and space across the campus is in response to the current configuration.

Perceptions and Operational Context
Related and parallel services provide another context. The populations utilizing the libraries included in this study are, to a large extent, unaware of the organizational differences and structure behind various locations. They perceive that all the services and spaces are provided in an integrated manner through a single entity. Figure 5.1-1 illustrates the perceived identity and reach of the "library".

Figure 5.1-2 illustrates the Libraries under the control and management of the General Library System (GLS). Within this smaller group, some facilities are thought of as serving a campus wide set of users. The remainder are smaller, typically focused on a departmental or school need, and are the focus of a separate but related Consolidation Study.

The Consolidation Working Group (CWG) is planning and implementing a series collection shifts in support of service shifts and reallocations of space by departments, schools or colleges that control those spaces. The product of these efforts at this is a network of GLS and non-GLS facilities with a smaller foot print.

Figure 5.1-2: Libraries included in study plus Wisconsin Historical Society
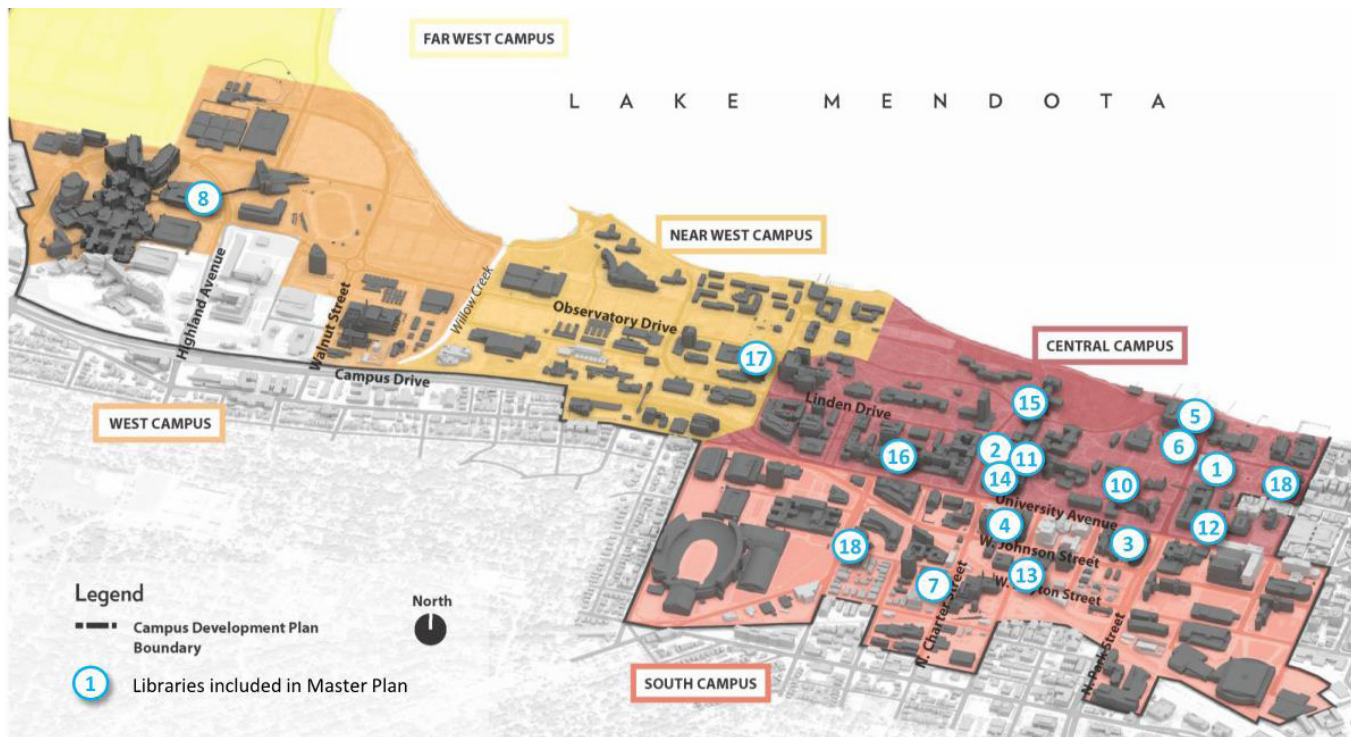
Key	Library	GLS	In Study	CWG Action
1	Historical Society			
2	Astronomy Library	X	X	Consolidate
3	Business Library	X	X	Consolidate
4	Chemistry Library	X	X	Consolidate
5	College Library	X	X	Resource
6	Geography Library	X	X	Consolidate
7	Geology & Geophysics Library	X	X	Explore
8	Health Sciences Learning Center		X	Resource
9	Kohler Art Library	X	X	
10	Law Library		X	Resource
11	Mathmatics Library	X	X	
12	Memorial Library	X	X	Resource
13	MERIT Library	X	X	Resource
12	Mills Music Library @ Memorial	X	X	
14	Physics Library	X	X	Consolidate
15	Social Science Reference Library	X	X	Consolidate
16	Social Work Library	X	X	Consolidate
12	Special Collections @ Memorial	X	X	
17	Steenbock Library	X	X	Resource
17	University Archives @ Steenbock	X	X	
18	Wendt Commons Library		X	Consolidate
	Middleton Storage Facility	X	X	Relocate
	Science Book Storage Facility	X	X	
	Verona Book Storage Facility	X		

Figure 5.1-3: Other Libraries and Resource Centers

NOTE: These are facilities beyond the direct control of the GLS. Long term space use and service assessments will be conducted as needed by the controlling school or college. These planning efforts may or may not include the GLS.
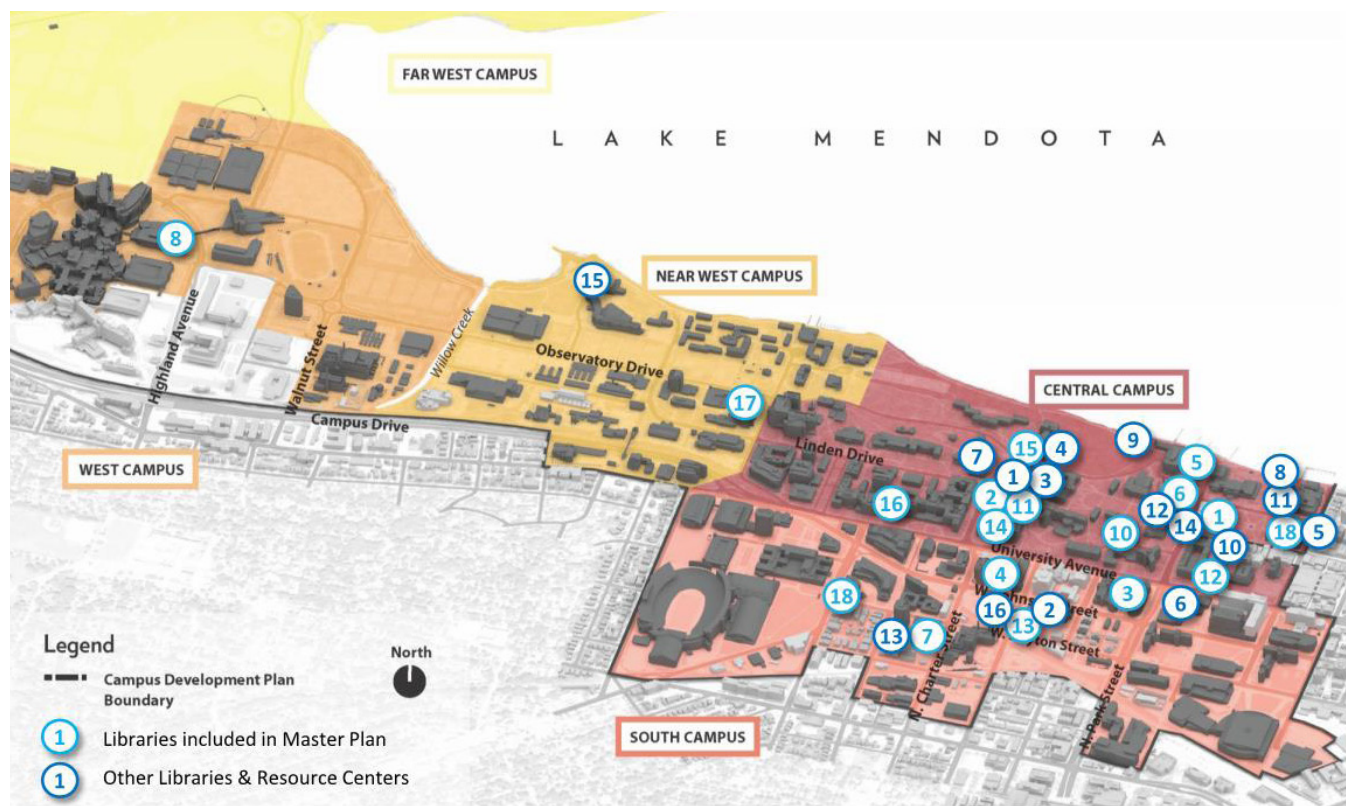
Key	Library	CWG Action
1	American Indians Studies Library	Explore
	Arboretum (not on map)	Explore
2	Children's Cooperative Book Center	Retain
3	Chican@ and Latin@ Studies Library	Explore
4	Data and Information Services Center	Retain
5	Gender and Women's Studies Librarian's Office	Resource
	Innovation Center (not on map)	Retain
6	Journalisn Reading Room	Explore
7	Learning Support Services	Retain
8	LGBT Campus Center	Retain
9	Limnology Library	Explore
10	Max Kade Institute	Retain
11	Morgridge Center	Retain
12	Robinson Map Library	Retain
	Ruth Ketterer Harris Library (not on map)	Consolidate
13	Schwerdtfeger Library	Retain
	Veterinary Medicine (not on map)	Consolidated
14	Wisconsin Center for Film & Theater Research	Retain
15	Wisconsin's Water Library	Retain
16	Zoological Museum Research Library	Retain

Campus Planning Context

Planning Districts

The 2015 Campus Master Plan Update identified five easily recognizable districts, each a collection of several campus neighborhoods. This framework is the basis for analyzing the current and anticipated forms of the GLS. The far west campus is largely housing and recreation and is, for the purposes of this study, most often grouped with the west campus. The west campus is the focus of the Health Sciences: Schools of Medicine, Nursing and Pharmacy. The near west campus is the heart of the School of Agriculture & Life Sciences and the School of Veterinary Medicine.   The central campus is home to the majority of the College of Letters & Science, the School of Social Work, and the School of Law. The south campus is home to the College of Engineering, the School of Business, and the School of Education.

Figure 5.1-4: Campus Planning Districts
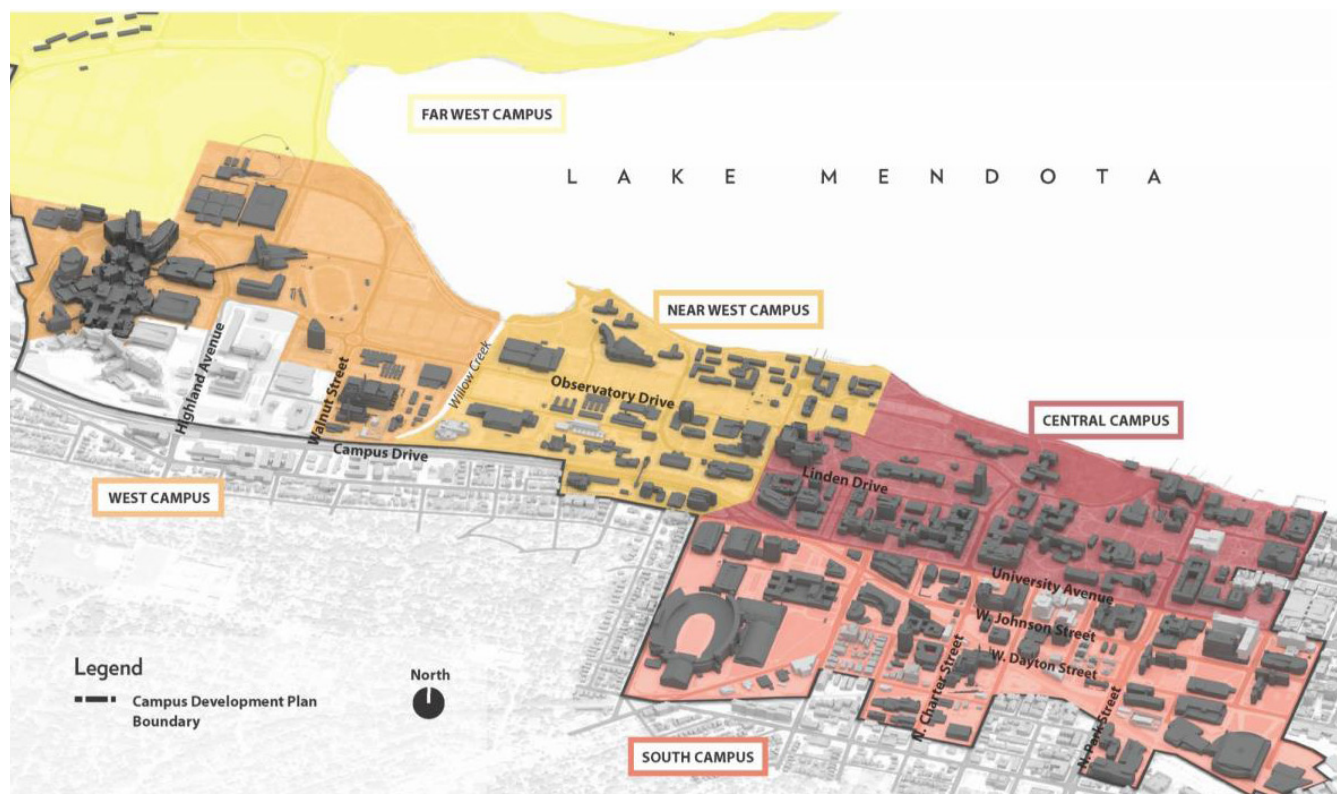
Library Space

Although there are a significant number of library locations, even after the currently planned consolidations are completed, the quantity of space at each location varies dramatically. The nature of the service at some of these locations is in response to the space available more than the service demands of the users served.   As the nature of the service evolves, the essential attribute of many of the smaller spaces becomes access to a subject specialist librarian and convenience.

As the service shifts continue to develop, the importance of the range of services rather than the proximity of services becomes more pronounced. The facilities with more space to devote to the emerging, critical, and value added services are concentrated in the few locations on campus that have adequate space and a critical mass of users to support the investment.

Currently the vast majority of GLS library space is concentrated in the north-east corner of the central campus. Memorial and College Libraries are the two largest GLS facilities and they are located within blocks of each other (0.3 miles apart). The largest non-GLS facility, the Wisconsin Historical Society, is across Library Mall from Memorial Library.

Figure 5.1-5 Distribution of Existing Library Space, Library Seats and Students by Campus Planning Division
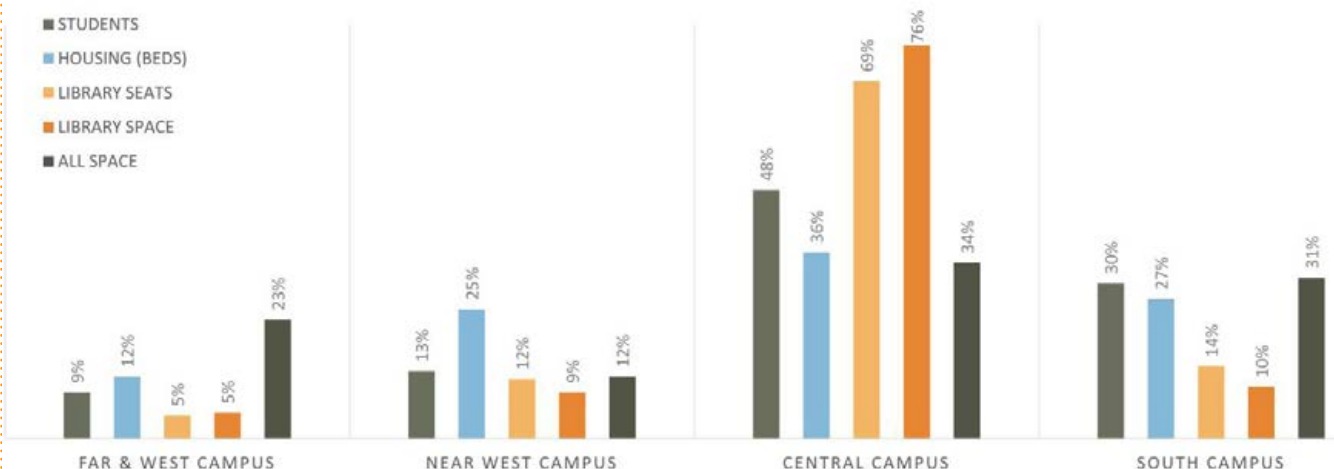
Some of this is understandable given the strong connections between the humanities and on-campus print collections which demand more space than some of the STEM and engineering disciplines located in other parts of the campus. Similarly, there is some argument that the humanities facilities offer the equivalent types of space that STEM users find in their departments (laboratories). Analysis of the space distribution though suggest that there is more of an imbalance than response to collection and seating capacity requirements of humanities programs.

Currently the central campus is served by 12 libraries constituting 551,000 of the 743,000 assignable square feet of library space. Once the University Archives is relocated to be adjacent to Special Collections Library, the total of current space on the central campus will be increased to 565,000 assignable square feet. This means seventy-eight percent of the total existing library space is on the central campus.

This is parallel to slightly lesser extent by the number of seats in the GLS libraries. Seventy percent of the total existing available public seating is in Central Campus libraries. Both are significantly more than the student populations associated with colleges or schools located on the Central Campus (College of Letters & Science, School of Social Work, and School of Law).

The location and nature of College Library will drive higher use of the space than would be expected from the Letters and Science, Social Work and Law populations. Part tradition, part location (overlooking Lake Mendota and adjacent to Memorial Union), part service model (including 24/5 operation), part character of use (including food), College Library is a magnate for a significant number of users whose focus of study is not on Central Campus. Some of this is offset by the almost dedicated use of the Law Library by law students. In the end, there is not a one-to-one correlation between enrollment in a particular school or college and use of a part of the campus, proximity and availability of resources, including space and seating suggests that the preponderance of library space and seating on the central campus is out of balance with the demand and exceeds the limits of convenience for many students, faculty and researchers for routine use.

Adjacent Uses – Daytime

Daytime use is focused on the research, teaching and educational components of the academic enterprise. As described above, the distribution of these endeavors follows a framework of related disciplines. The edges are blurred, and the growth of the biological and life sciences across the near west, central and south campuses is a bit less precise than in previous campus master plans, there are continuing adjacencies that support the university community. The adjacencies are illustrated in **Figure 5.1-6**.

This framework is reinforced in the 2015 Campus Master Plan Update and, given allowances for the uncertainties of funding, land acquisition, precedent projects, and overall progress toward the form defined in the update,

Figure 5.1-6: Existing library locations mapped to the primary academic communities on campus
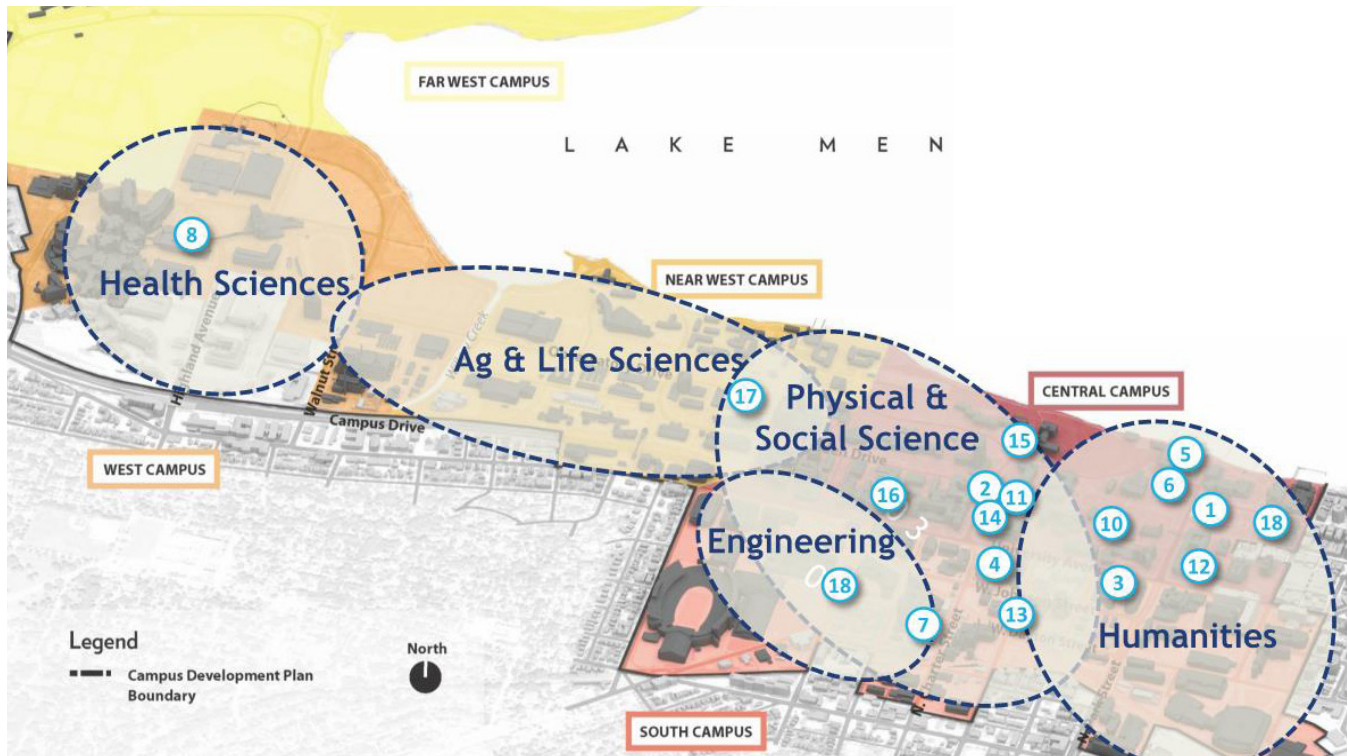
presents a reasonable set of assumptions related to the locations of various disciplines. These locations will help organize the combined library facilities in a manner that supports collegiality, interdisciplinary research, and ease of use. The anticipated and potential development on campus over the next twenty plus years anticipates more growth on the west, near west and south campuses. This shift reflects a removal of aging and outmoded facilities in favor of more advanced and flexible facilities. The shift illustrated in Table 5.1-7 shows the net growth of the various planning districts.

Table & Graph 5.1-7: Anticipated Growth in Potential Space, 2035+, by Campus Planning District
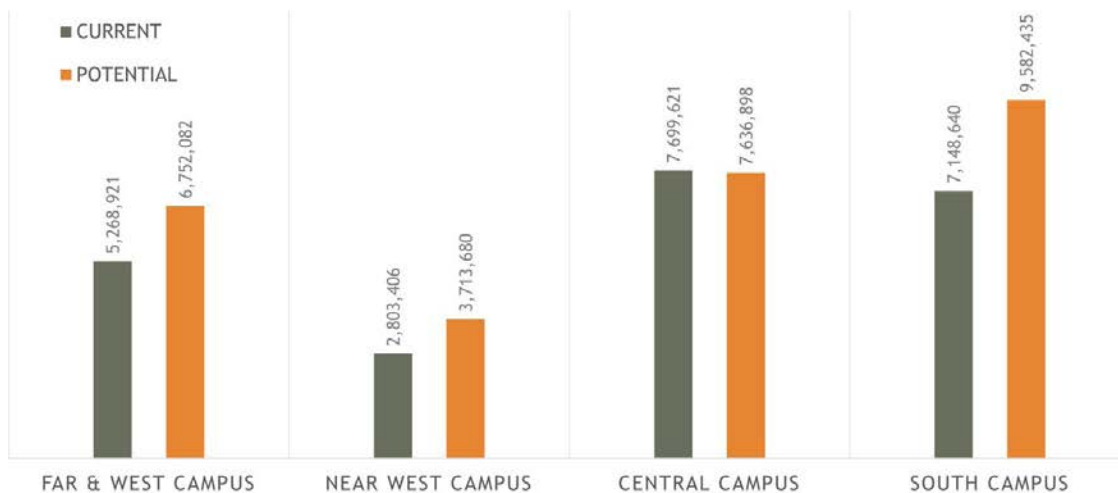
PLANNING DISTRICT	CURRENT SPACE IN SQUARE FEET	POTENTIAL SPACE, 2035+
Far West & West	5,268,921	6,752,082
Near West	2,803,406	3,713,680
Central	7,699,621	7,636,898
South	7,148,640	9,582,435
TOTAL	22,920,588	27,685,095

Adjacent Uses – Nighttime

Another key relationship for library space, and library seats, is the proximity to residential units. For students this is most often on-campus and near campus housing. The 2015 Campus Master Plan Update identifies three primary and two secondary clusters of university and private owned housing that total just over 16,000 beds. There are no new residence halls identified in the 2015 Campus Master Plan Update. Private development east and south of campus continues at a brisk pace. More units can be expected to replace and add to the current stock. The exact extent of this development is beyond the scope of this study.

Table 5.1-8: Existing On- and Off- Campus Beds as of 2015

PLANNING DISTRICT	ON CAMPUS	OFF CAMPUS	COMBINED
Far West & West	1,848	0	1,848
Near West	3,465	501	3,966
Central	858	4,966	5,824
South	3,246	1,132	4,378
TOTAL	9,417	6,599	16,016

The location of the beds identified requires a different balance of library space and seats to user populations. The vast difference in space/seats to students based on school or college enrollment is more balanced. The 78% of library space and 70% of library seating on the Central Campus is closer to the 57% of identified beds than it is to the 48% of enrolled students for the Schools of Law and Social Work and the College of Letters & Science.

This suggest a parallel analysis of seating requirements for day and evening use patterns.

Figure 5.1-9 Existing Library Locations mapped to the primary residential areas on and near campus.

Figure 5.1-9: Comparison of Library Locations to On- and Near- Campus Housing
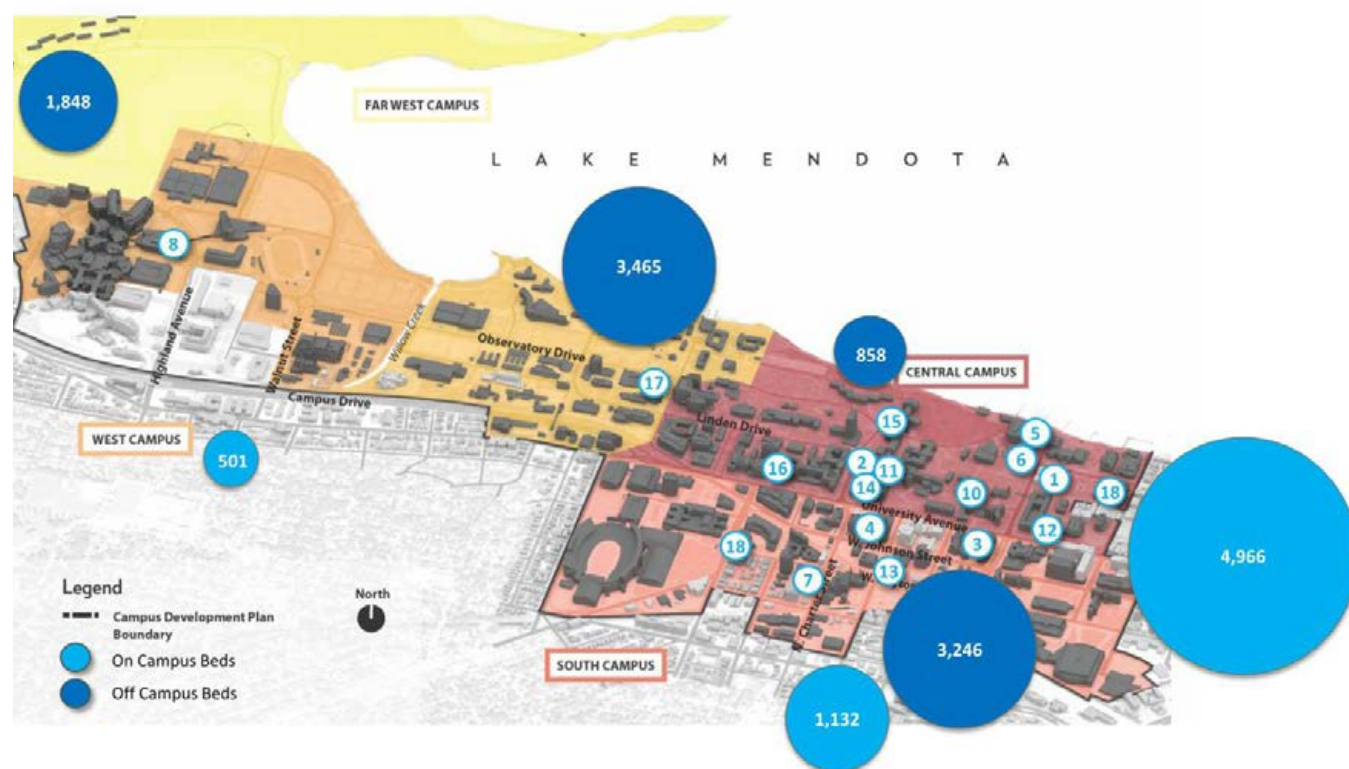
Adjacencies: Far West and West Campus Libraries

While the far west campus is predominantly home to UW housing and the Lakeshore Nature Preserve, the adjacent west campus is home to the Schools of Medicine & Public Health, Nursing and Pharmacy. These schools represent 9% of the total 2015 enrollment at the university. Housing in these zones is 12% of the total on- and off- campus capacity defined in the 2015 Campus Master Plan Update. The total space currently in place on the far west and west campuses is 23% of the total for the entire campus. Library space (consisting of Ebling Health Sciences Library) represent 5% of the current total of library space. User seats in the library space constitute 4.5% of the library total seating capacity. This seating count provides a seat for approximately 10.4% of the students on the west and far west campuses. This is approximately half of the UW-Madison average and at the low end of what is considered a minimum requirement.

The nature of the academic programs on the west campus are the health sciences. The library resources needed to support these programs tend to be access to digital collections, historic print, and space for users including study, collaboration, and exhibition.

Academic program space on the west campus is expected to increase in the long terms. Overall growth, including recreation as well as academic uses is planned to increase by 444,683 square feet on the far west and west campuses in the near term. This will be driven largely by non-academic needs including a new Natatorium (Identified in the Campus Master Plan as building W-16). Mid- and long term improvements include a new Preserve Outreach Center (W-29, 8,700 sf), Nielsen Tennis Stadium Expansion (W-28) and Wisconsin Institutes for Medical Research, Phase 3 (W-01, 308,000 sf).

Beyond 2035, the west campus is expected to accommodate academic program expansions in Health Sciences (W-04A Health Sciences Expansion, W-07, 08, 09B, 09C and 13) Health Sciences Research, as well as WARF (W-11). Further projects are planned to support Student Life (W-06), Athletics (McClimon Track/Soccer Grandstand, W-05) and various Grounds facilities (W-30, 31, 32, 33, and 34) for storage, greenhouses, administration and salt storage.
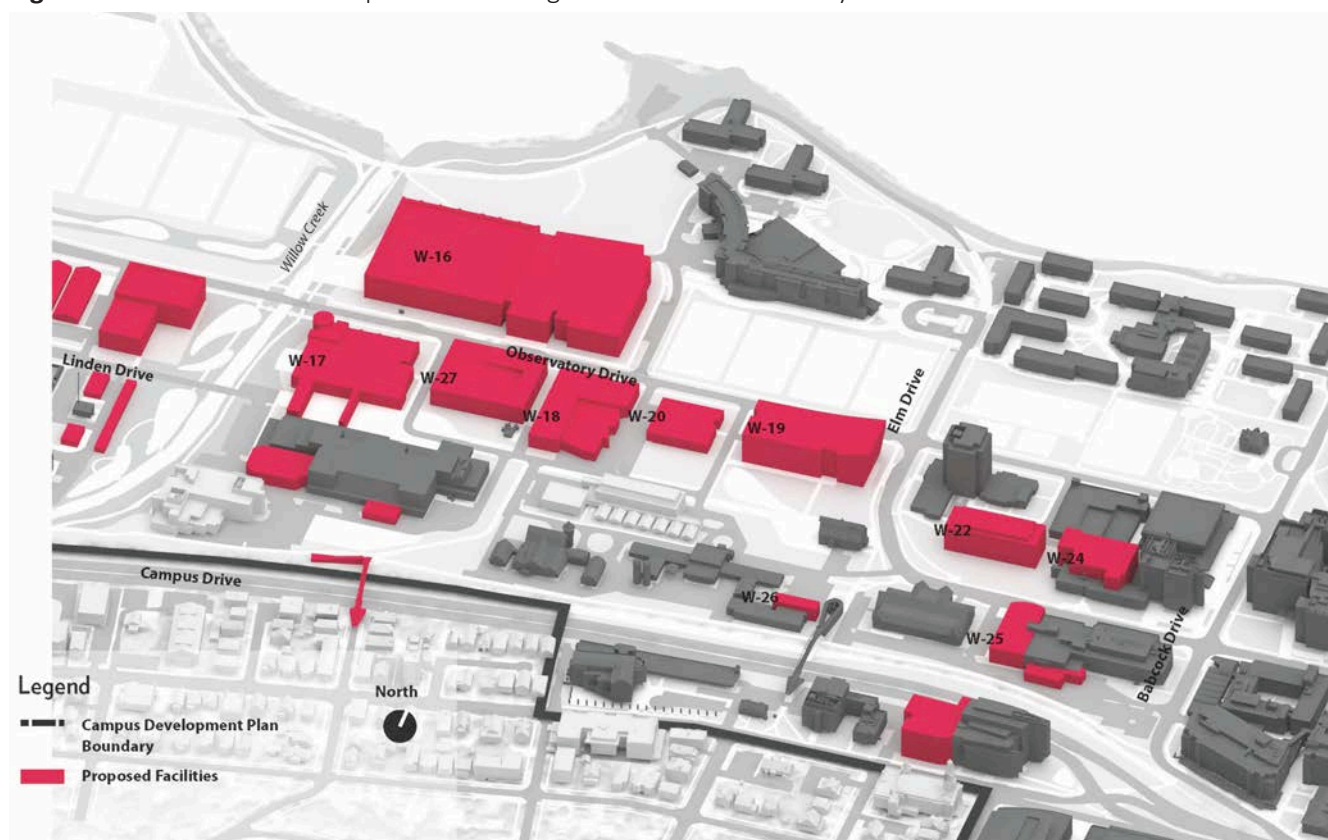
Adjacencies: Near West Campus Libraries

The near west campus is home to the School of Agricultural & Life Sciences and the School of Veterinary Medicine. These schools represent 13% of the total 2015 enrollment at the university. Housing in these zones is 25% of the total on- and off- campus capacity defined in the 2015 Campus Master Plan Update. Dejope Residence Hall significantly expands the number of beds in the Lakeshore residential area of campus. The total space currently in place on the near west campus is 9% of the total. Library space (consisting of Steenbock Memorial Library) represents 9% of the current total of library space. This is exclusive of the University Archives and the Science Library Shelving Facility. User seats in the library space constitute 11.5% of the library total seating capacity. This seating count provides a seat for approximately 17.3% of the students on the near west campus. This is approximately 90% of the UW-Madison average well within the range of what is considered an acceptable standard.

The nature of the academic programs on the near west campus are agriculture, and life science in focus. The library resources needed to support these programs tend to be access to digital collections, historic print, and space for users including study, collaboration, and exhibition.

Academic program space on the near west campus is expected to increase in the near and long terms. Overall growth, including recreation as well as academic uses is planned to increase in the near term, driven largely by a Veterinary Medicine Expansion (W-17, 138,911 sf), Meat Science and Muscle Biology Lab (W-18, 228,000 sf), and Babcock Hall Center for Dairy Research Addition (W-25, 31,300 sf). Long term improvements include a new Poultry & Livestock Lab Building (W-20).

Beyond 2035, the near west campus is expected to accommodate academic program expansions in Biological Sciences including Biological Systems Engineering (W-19, 246,000), Animal Sciences AHABS (W-22, 85,000), and Plant Sciences (W-24, 100,000 sf).

Figure 5.1-11: Near West Campus Growth Diagram & Steenbock Library

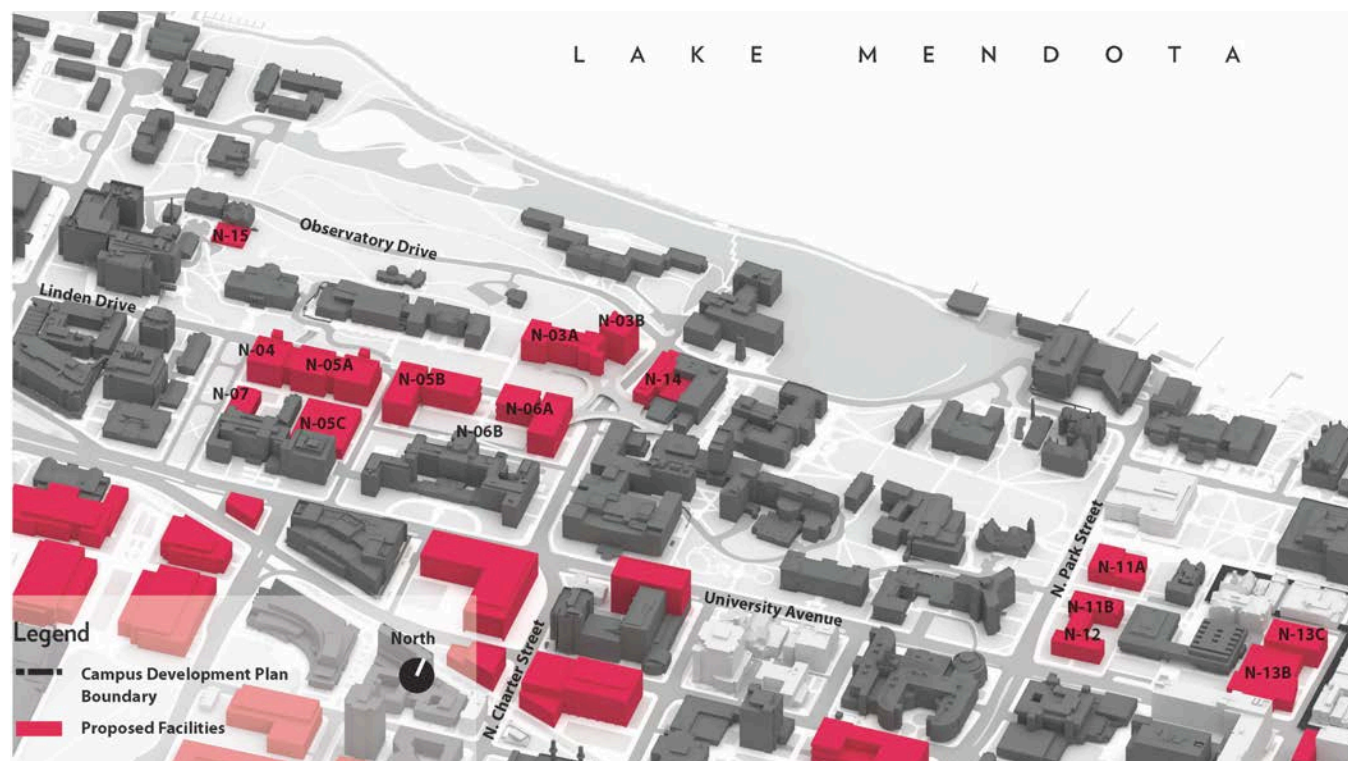### Adjacencies: Central Campus Libraries

The central campus is home to the College of Letters & Science, the School of Social Work, the School of Law, the School of Human Ecology and the Nelson Institute for Environmental Studies. These schools represent 48% of the total 2015 enrollment at the university. Housing in the on-campus and near off-campus zones is 36% of the total on- and off- campus capacity defined in the 2015 Campus Master Plan Update. The total space currently in place on the central campus is 34% of the total. Library space (consisting of Art (Kohler), Astronomy, College, Law, Geography, Mathematics, Memorial, Music (Mills), Physics, Social Science, and Social Work, Libraries) represent 78% of the current total of library space. This is exclusive of the Special Collections in Memorial Library. User seats in the library space constitute 69.5% of the library total seating capacity. This seating count provides a seat for approximately 29.4% of the students on the central campus. This is approximately 150% of the UW-Madison average well above the range of what is considered an acceptable standard. A significant non-GLS library on the central campus is the Wisconsin State Historical Society building with its extensive collections and seating spaces.

The nature of the academic programs on the central campus are generally the humanities and social sciences. The library resources needed to support these programs tend to be access to digital collections, significant current print, historic print, and space for users including study, collaboration, and exhibition.

Academic program space on the central campus is expected to decrease slightly in the near and long terms. Much of the focus of the construction anticipated is associated with the replacement of Mosse Humanities Building. Near term projects include Hamel Music Center Phases 1 & 2 (N-13B, 135,000 sf), and Ingraham Hall Expansion (N-14, 56,000 sf). Mid- and long term projects include Stovall Building Hygiene Lab (0476, 80,939 sf), Academic and Research Facilities at the Stovall, Mosse and Bardeen sites (N-04, 06A, 11A, and 12A totaling 445,200 square feet) as well as Music Phase 3 (N-13C, 75,000).

Beyond 2035, the central campus is expected to accommodate academic program expansions in humanities and social sciences including facilities for King Hall Greenhouses (0074A, 21,478 sf), 445 Henry Mall (0102, 54,750 sf), Nutritional Sciences (0449, 56,502 sf), School of Social Work Building (0453, 41,344 sf) and Van Hise Hall (0482, 226,940 sf).

Figure 5.1-12: Central Campus Growth Diagram, College & Memorial Libraries

Adjacencies: South Campus Libraries

The south campus is home to the College of Engineering, the School of Business, and the School of Education. These schools represent 30% of the total 2015 enrollment at the university. Housing in the near off-campus zones is 27% of the total on- and off- campus capacity defined in the 2015 Campus Master Plan Update, most of it located to the east edge of the planning district. The total space currently in place on the south campus is 31% of the total. Library space (consisting of Business, Geology, MERIT, and Wendt Libraries) represent 10% of the current total of library space. This is reflective of the recent reconfigurations of Business and Wendt Libraries. User seats in the library space constitute 14.5% of the library total seating capacity. This seating count provides a seat for approximately 9.8% of the students on the south campus. This is less than 50% of the UW-Madison average below the range of what is considered an acceptable standard.

The nature of the academic programs on the south campus are a broad mix of disciplines. The library resources needed to support these programs tend to be access to digital collections, significant current print, historic print, and space for users including study, collaboration, and exhibition.

Academic program space on the south campus is expected to increase significantly in the near and long terms. Near term projects include Academic/Research facility at Johnson/Park (S-13A, 348,000 sf), College of Engineering Research (S-21, 156,364 sf), and Chemistry Building Expansion (S-29, 173,169 sf). Mid-term projects include 1410 Engineering Drive (S-02, 169,091 sf). Long-term projects include Engineering Research replacement (S-01, 271,667 sf), Wisconsin Institute for Discovery Phase 2 (S-03B, 392,000), and Academic/Research facilities (S-08A and s-28, totaling 106,470 sf).

Figure 5.1-13: South Campus Growth, MERIT & Business Libraries

Beyond 2035, the south campus is expected to accommodate academic program expansions in engineering, art, zoology and general research including facilities for

- Zoology Research & Noland hall (S-07, 419,888 sf)
- Weeks hall Addition (S-08B, 5,000 sf)
- Academic/Research/Spring Street (S08C, 150,000 sf)
- Primate Center & Harlow Expansion
- Phase 1 (S-09A, 48,822 sf)
- Phase 2 (S-09C, 60,000 sf)
- Phase 3 (S-09D, 96,000 sf)
- Academic/Research/Lot 45 Site (S-11A, 30,000)
- Art Building (S-16A, 162,000 sf)
- University Research Park/Lorch Street (S-22, 34,000 sf)
- New Engineering Building (S-23, 204,000 sf)
- New Engineering Building (S-24, 236,583 sf)
- New Engineering Building (S-25, 274,986 sf)
- New Engineering Building (S-26, 169,506 sf)

Student: Seat Ratio

A key measure of the availability of library service, in particular space as a service, is the ratio of library seats to student population. Broad bench marks have been discussed on **Section 4.3 & 4.4**. The experience on the UW-Madison campus in general has exceeded the norms found in peer and Big Ten Acedemic Alliance. These comparisons are of use as broad summary but a district by district comparison suggests that the reported ratio is not consistently provided across the entire campus.

Utilizing head counts by component Schools and Colleges found in **Table 3.2-C**, the percentage of the enrolled student population with a library seat at any instance ranges from a low of 9.8% for the South Campus to a high of 29.4% on the Central Campus. This compares to an overall campus wide average of 20.2%. Note that this calculation of 20.2% varies slightly form peer group reports in that it is premised on head count (full and part time students rather than FTE) as reported to the Association of Research Libraries and other organizations.

Also of note is the allocation of the entire College of Letters and Science student population to the central campus. This inflates the overall population for the central campus at the expense of south campus and near west campus. A finer degree of data – location of various L&S programs by building – could provide a more precise picture of how daytime is distributed on the various campus districts. The allocation of a portion of the L&S population to both south and near west would increase the population served by the same number of seats and shift the percentage served calculation for each lower while that of the central campus would rise, indicating more of an imbalance, assuming an equivalnet need/demand for user seats across all disciplines / all planning districts.

Figure 5.1-14: Comparison of Library Seat to Enrolled Student Ratio by Campus Planning District and in Total
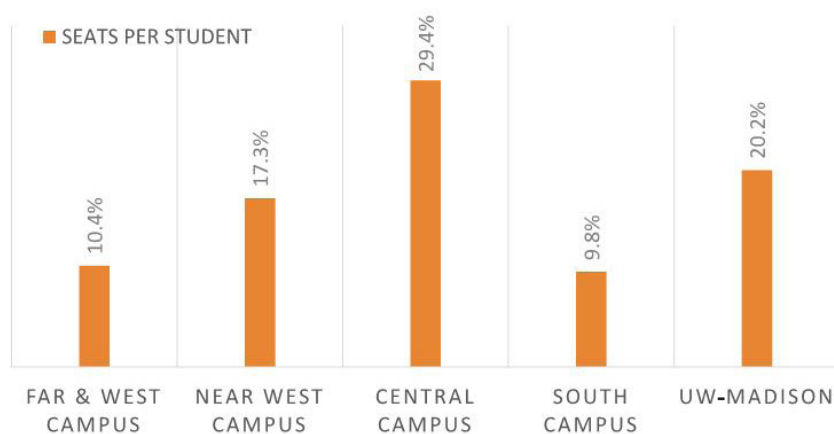
5.1.2   Potential Building Sites, Boundary Changes and Expansion Potential

Guiding Planning Principles

The 2005 Campus Master Plan and 2015 Update defined guiding principles that are applicable to the sizing (program) and siting concepts of the Library Facility Master Plan:

• The regents are committed to managing enrollment and maintaining an enrollment of approximately 41,500 students (headcount) well into the future

• Continued moderate growth in faculty and staff will be driven by the university's research engine, estimated to be 2% per year

• The university is committed to responsibly plan for growth without requiring significant land acquisition outside the current development plan boundary

• Open space is required within the development plan boundary to respect the "carrying capacity" of the land [1]

Six major goals of the Campus Master Plan and Update are particularly applicable to the GLS. Goals from the 2005 Master Plan are cited:

Goal #2 – Community, Academic and Research Connections
Promote the Wisconsin Idea by enhancing community connections. Define borders and enliven streetscapes with more trees and more public gathering places. Make boundaries inviting and transparent. Enhance academic connections by replacing aging buildings, adding research space and improving the quality of academic facilities. Promote interdisciplinary learning and research with flexible new facilities.

Goal#3- Student Life
Renew a commitment to student life by renovating, rebuilding or sectoring unions and adding upgraded recreational facilities. Add on-campus housing space and continue to promote learning communities. Create new outdoor spaces for informal student gatherings.

Goal #5 – Open Space
Protect and enhance existing open spaces and create new gathering areas. Maintain lands in the Lakeshore Nature Preserve as natural areas that support our mission of teaching, research and outreach. Protect known historic cultural landscapes, quadrangles and courtyards. [1]
The location of several large, key library spaces present opportunities to move closer to the realization of these goals. Similarly, potential sites present several synergies between the GLS service goals and space needs, and the goals of the Campus Master Plan. Connectivity, indoor and outdoor spaces for informal learning, protection and connection to cultural landscapes are central to the identity of the GLS.

Limitations on Site Potential

It is recognized that the facilities on campus are managed by the Division of Facilities Planning & Management for the benefit of the entire university. The final allocation of sites is dependent on multiple factors including need, adjacency, precursor enabling projects, and available funding. Within this understanding, the planning team considered multiple possible repurposing of existing buildings, potential expansion of existing buildings replacements in place of various existing buildings, and potential new sites.

Once a project is identified,
a specific site will then be selected within the parameters set by the Campus Master Plan. Site selection is undertaken during the scoping/feasibility study or the pre-design phase by looking at advantages and disadvantages of available sites with respect to the specific program needs and the future needs of the campus. In making a site selection, consideration should be given to: • Options that are compatible with the Campus Master Plan. • Capacity of site to accommodate future expansion. • Options that promote environmental sustainability. • Functional relationships between programs in the neighborhood. • Minimizing site development costs. • Site accessibility, visibility and image appropriate for the intended use. • Aesthetic character that is appropriate for the context and neighborhood. • Options that preserve or enhance existing open spaces and significant view corridors. [2]

Far West & West Campuses
Ebling Health Sciences Library
(Institution) Districts

Figure 5.1-15: Aerial View of Health Sciences Library as part of Health Sciences Neighborhood

Control

Control of the Health Sciences Library is outside of the GLS. Coordinated cooperative measures have been and will continue to be taken to maximize the potential of the available space to support services traditionally associated with libraries.

User Population

User Populations include the School of Medicine and Public Health, the School of Nursing, and the School of Pharmacy. Service needs include collaborative space, access to subject experts, current digital resources, and historic print resources.

Access

Access is via a network of internal and cross site paths, including walkways, skywalks, surface and structured parking and internal corridors and spaces within the Medical School/UW Hospital complex. All of this is easier for the School of Medicine than for School of Pharmacy and School of Nursing users. The skywalk across Highland Avenue adds some convenience and safety given the level of traffic and congested site. Parking is a struggle given congestion, construction, level of use and the location of parking at node between multiple significant uses.

Identity, Way-finding, Gateway

Identity & Way-finding, Gateway, and other place making opportunities are limited. Health Sciences is a series of internal spaces, remotely connected to the interior organizing spaces of the Health Sciences Learning Center and even more remotely connected – if at all – to the exterior. As a secondary element within the overall form of the HLSC, these roles are beyond the role of the Health Sciences space. The HSLC building form and materials are attractive and inviting. Given the density of development in the area and congestion, identification of the library space is surprisingly easy.

As part of the long term development of the Health Sciences Neighborhood, a series of social opportunities for food, gathering and meetings are anticipated. This addition, though at some distance from the Ebling space, will enhance quality of life on the West Campus.

Internal reconfigurations are currently underway at the direction of the School of Medicine and Public Health. There is sufficient space, structural capacity, floor to floor height and building infrastructure to support a wide range of potential uses associated with library service.

Figure 5.1-16: Health Sciences Library as part of Health Sciences Neighborhood
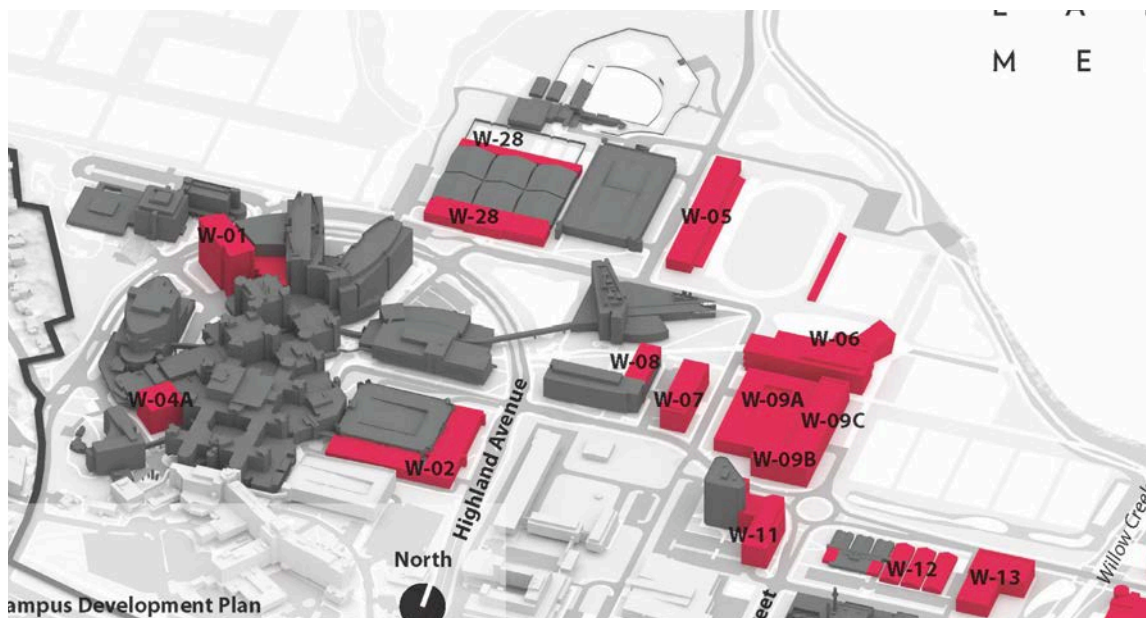
Safety and Security:

Open Space and Natural Areas
There are a number of nearby natural areas, accessible by various means, and, at a bit more distance, significant green spaces including Bill's Woods, Picnic Point, Caretaker's Woods to the north, all within the Lakeshore Nature Preserve. These offer a welcome respite from the congestion and activity of the Health Sciences neighborhood.

Recreation and Athletic Fields
The scale of the Health Science neighborhood changes the perspective on relative distances. Recreation is one of the primary focuses of the nearby West and Near West Campus open spaces. McClimon Sports Complex and the Natatorium frame a series of athletic fields. The Howard Temin Lakeshore Path is nearby. While generally close compared to other parts of the campus, the typical experience of the Health Sciences (Ebling) Library is internally focused. Recreation and athletic facilities are destinations and visual relief from parts of the Health Sciences neighborhood. The anticipated growth on the west campus will help connect this are to the rest of the campus.

Building Forms (building type, height, massing, materials)
The Health Sciences Learning Center and Ebling Library are housed in a facility that follows the massing and scale requirements of the Campus Design Guidelines.
- Buildings has a base, middle, and top. Visual emphasis is given to the ground floor through door and window scale, architectural detailing, and greater floor-to floor heights.
- The building corresponds to its neighbors in volume, scale, and level of detail. It is s a secondary building that integrates with and screens the bulk of some necessarily large buildings with its smaller masses and appropriate level of detail.
- It is organized around internal open spaces.
- It utilize architectural articulation such as changes in material, fenestration, architectural detailing, or other elements to break down the scale.

Historic properties, archeological sites, districts, and landmarks
The HSLC/Health Sciences Library is near a defined archaeological site that is the site of the McClimon Sports Complex.

Expansion Potential

The largest issue with respect to matching the nature of the space to the needs of the user populations is governance. Whether through the auspices of the GLS or the School of Medicine and Public Health, continued and enhanced coordination and collaboration between those parties as well as the School of Nursing and the School of Pharmacy is encouraged to address any aspect of control and funding.

Near West Campus
Steenbock Memorial Library
(Institution) Districts

Control
Control of Steenbock is by the GLS in cooperation with the College of Agriculture and Life Sciences. It is home to the Science Library Shelving Facility, SLSF, on the basement level (two levels below grade) and the University Archive on the third floor.

Figure 5.1-17: Relationship of Steenbock Memorial Library to the College of Engineering

User Population

The primary users consists of the students, faculty and staff of the College of Agricultural and Life Science and a group of undergraduates, typically residents of the Lakeshore residential neighborhood. The Library is said to be functioning as a "second College Library" for residents of the Lakeshore neighborhood.
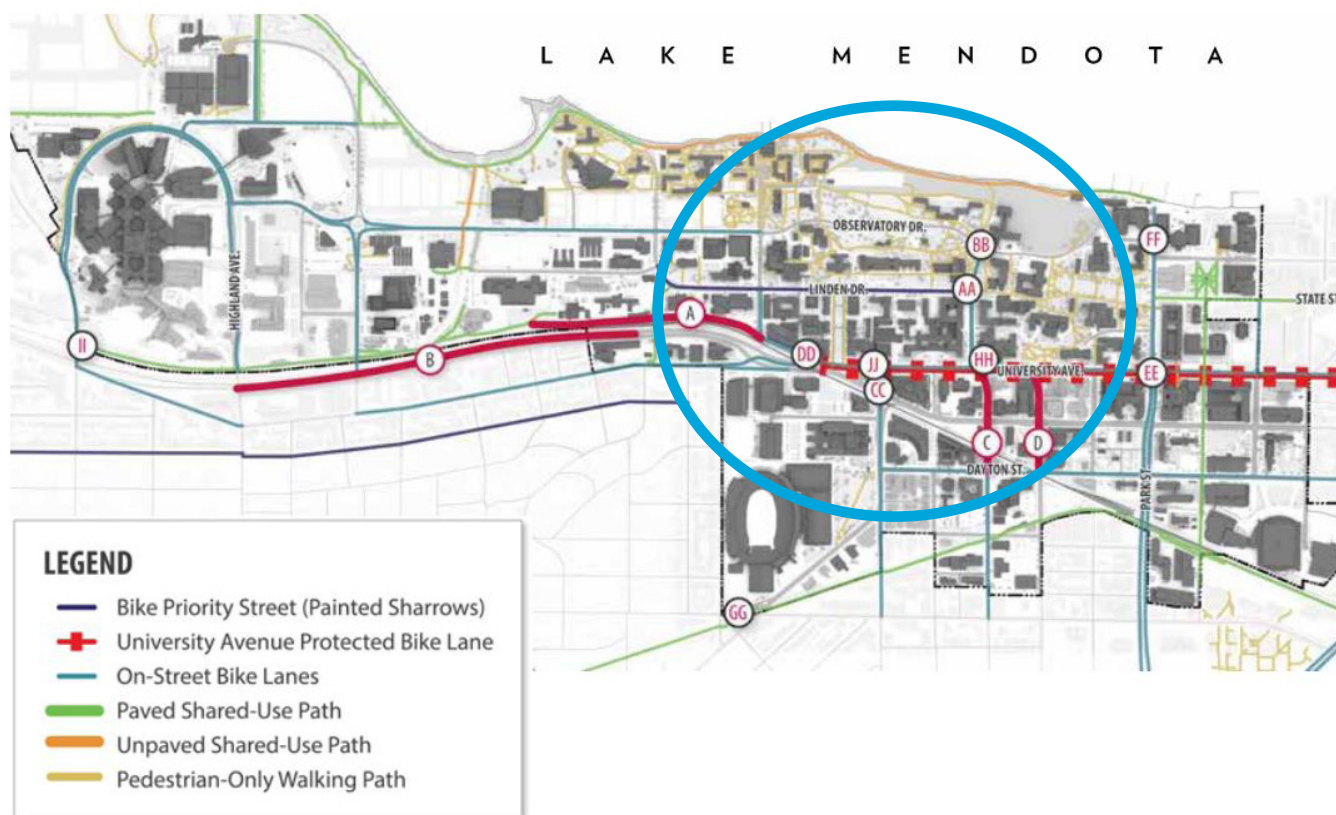
Access

Access is via Observatory Drive from the east or west and Babcock Drive from the south. For east west arrivals and general "internal" movement on the near west campus there are convenient bicycle and pedestrian paths to the library. These connect just to the north to the Howard Temin Lakeshore Path.

The connection to from the south has multiple exceptions. The College of Engineering is relatively close but separated by the fork formed by the divergence of Campus Drive and University Avenue.

The pedestrian path linking Babcock Drive to Engineering Drive is contorted. Challenges identified in the 2015 Campus Master Plan Update (plan mark DD in figure 5.1-22) include the skewed intersection, long crossing, various turning movements, high vehicle speeds and volumes, pedestrian, cyclist, and vehicle yielding confusion, and the railroad crossing.

The site is well served by transit, available at the north-east corner of the Library (Babcock and Observatory Drives) including Routes 80 (campus loop), 11, 28, 38, 44, and 84. This is primary transit node on campus. Observatory Drive Parking Structure is immediately adjacent to the library and offers easy mid-level connections to the sidewalk serving the library's entry level.

Figure 5.1-18: Transportation Issues along Portions of University Avenue

LEGEND

— Bike Priority Street (Painted Sharrows)
+ University Avenue Protected Bike Lane
— On-Street Bike Lanes
— Paved Shared-Use Path
— Unpaved Shared-Use Path
— Pedestrian-Only Walking Path

Topography and Storm Water Management

The falling topography moving north to south from Observatory Drive creates the opportunity used to admit natural light to the first floor, which is one floor down from the entry level. Connections are made between the exterior plazas and pathways via a series of stairs.

Figure 5.1-19: Topographical Map of Steenbock Library Site

Identity, Way-finding, Gateway

Steenbock sits at the intersection of the lakeshore, historic, and near west campus neighborhoods. Although not a gateway onto the campus it is a gateway/nexus within the area and signals a transition between these neighborhoods. It is a singular form on campus with simple clean lines and an almost platonic massing. The east sunken courtyard, often empty, does not function as a community gathering space. It provides a source of natural light to the lower level, one of the most active parts of the building and serves as a link between Babcock Drive sidewalks and an east west path mid-block between Linden and Observatory Drives.

A missed opportunity is the potential connection between the interior spaces and Allen Centennial Garden. Informal gathering and study spaces in the building would benefit from the north light and views into the gardens, reinforcing the sense of the university's heritage, its mission and its goals for the campus.

Open Space and Natural Areas

Allen Centennial Garden is a special place on campus, directly north of Steenbock Library linking the lakeshore neighborhood to the north and northeast. The garden is the living laboratory and public botanical garden of the Horticulture Department at the university. In addition to being an outdoor classroom, the is being restored to house student services such as internships, studies abroad, scholarships, meeting spaces, exhibition space. It is a natural pairing with the focus of Steenbock.

Recreation and Athletic Fields

Allen Centennial Garden marks the end of a series of open green spaces extending to the Health Sciences neighborhood. This eastern end is recreational in focus supporting the lakeshore neighborhood as well as the broader university community. Porter Boathouse and the Temin Lakeshore Path are nearby.

Building Forms (building type, height, massing, materials)

Steenbock marks a transition from the far northeast corner of the near west campus neighborhood to the lakeshore neighborhood and the historic campus neighborhood. It exhibits many of the characteristic sought in the Campus Design Guidelines:

- Although small in size compared to its neighboring buildings east or south, the building mass is still articulated. First and second floor fenestration and detail add interest to a straightforward form.

- The building has a base, middle, and top. Visual emphasis is given to the ground floor through door and window scale, architectural detailing, although not through a greater floor-to floor height.

- The building makes a transition between the larger buildings east and south to the open spaces and smaller scale buildings north of the site.

- The building minimizes its footprint to balance program need (stacked on 5 floors, much of which is nested into the slope of the hillside) with providing an exemplary collegiate setting via open space to the east and west. This open space, in particular to the east, is generally inconsistent with the notion of a build-to line.

- The building is symmetry in plan, although asymmetrical ideas are introduced as the building emerges from the hillside. The asymmetries are found primarily in the site work. The building uses an assemblage of repeating and overriding forms for interest and economy of costs. The building does have a simple plan form and the attendant flexibility desired from such a form.

- The building utilizes simple architectural articulation such as changes in a similarly simple material palette, fenestration rhythm, and architectural detailing, or other elements to break down the scale.

FIGURE 5.1-20: Build-to lines in the Area of Steenbock Library

Historic properties, archeological sites, districts, and landmarks

Steenbock is eligible for registration on the National Register of Historic places according to the Wisconsin Historical Society [1].

Expansion Potential

Expansion opportunities exist within the "build to" lines established in the 2015 Campus Master Plan Update. The primary option is toward the east into the area of the sunken courtyard. Approximately 8,000 gross square feet can be added at each of 4 primary levels. The basement level, housing the Science Library Shelving Facility, SLSF, could also be expanded.

	Existing (ASF)	Addition (ASF)	Total (ASF)
Steenbock/Archive	66,600	32,000	98,600
SLSF	9,500	8,000	17,500
TOTAL	76,100	40,000	116,100

The building structure is generally open, supportive of traditional library loads but not compact shelving systems except at the basement level. Additional building capabilities (power, data, technology, mechanical systems) affecting utility are described in Section 5.3.

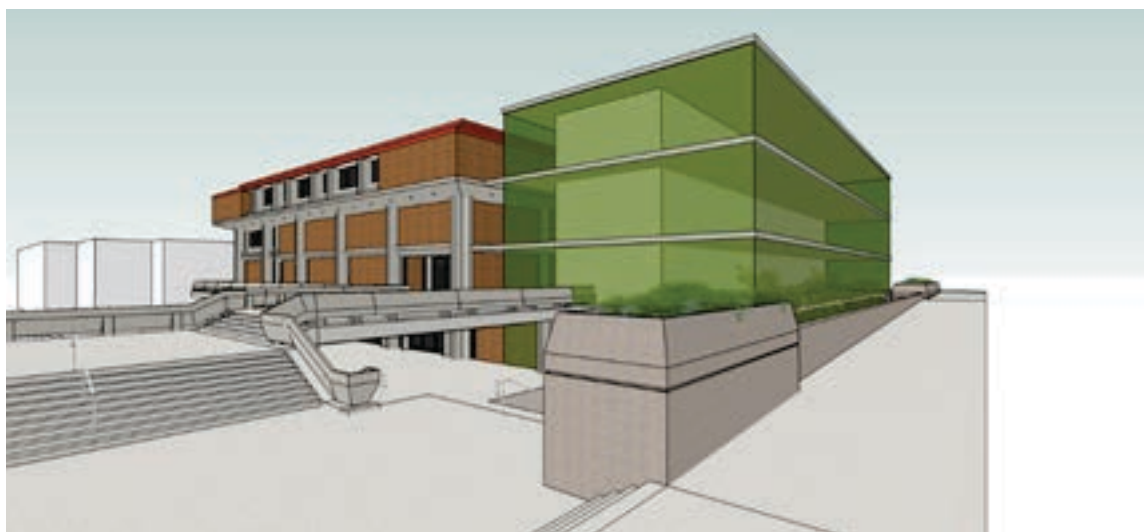**Figure 5.1-21:** Expansion Zone East of Steenbock Library, looking north northwest

Figure 5.1-22: Expansion Zone East of Steenbock Library, from corner of Observatory Drive and Babcock

Central Campus
College Library
(Institution) Districts

Control
Control of College Library is in conjunction with the College of Letters and Science. The Library enjoys an iconic location on three floors of Helen C. White Hall. As noted previously, College Library enjoys a special status as one of the library and university experience common to most alumni. Part tradition, part location (overlooking Lake Mendota and adjacent to Memorial Union), part service model (including 24/5 operation), part character of use (including food), College Library is a magnate for a significant number of users whose focus of study is not on central campus.

User Population
Users are drawn broadly from across the campus. Undergraduate students are the primary focus of a series of services and spaces devoted to foundational research and scholarship.

Access
Access to the Library is generally through some of the most congested areas of the campus. Intensive use, narrow streets, undulating landforms and a long history of development lead to multiple issues for pedestrians, cyclists and drives alike. The 2015 Master Plan Update identifies multiple challenges including a highly skewed and offset intersection, layover areas west of Memorial Union, turning movements for pedestrians, cyclists and motorists, and low pedestrian, cyclist compliance (plan mark FF).

The Library proximity to Lake Mendota gives it front door access to the Howard Temin Lakeshore Path which runs westward to the Village of Shorewood Hills on the west and far west campuses.

Figure 5.1-23: Aerial View of Helen C. White Hall, home of College Library

Figure 5.1-24: Transportation Issues at Park Street & Observatory Drive

Structure
The structure of the building is capable of supporting traditional open stack library loads but not high density shelving. Structural (floor to floor) heights are adequate form most types of contemporary library spaces.

Identity, Way-finding, Gateway
Identity elements of College Library are significant. The library space is one of the few public spaces on campus to front Lake Mendota. It is definitely the most public of the serious-use space to front the lake. The other very public use is Memorial Union Terrace. It is a destination space for the quality of the views and light.
The library is adjacent to key cultural landscapes including John Muir Park and thereby to Observatory Hill; Bascom Mall; and Memorial Union Terrace. It is three-tenths of a mile from Library Mall.

Open Space and Natural Areas
A number of the key cultural spaces near College Library are open spaces, used for informal and formal events and recreation. John Muir Park and Bascom Mall are both open and nearby but have distinctly different characters.
The connection of the campus via North Park Street ends in a service zone cul-de-sac and is an unfortunate end to a path that leads all the way through the City of Madison from the Beltline (Highway 18). For many visitors, North Park Street is the main entry into the university.

Recreation and Athletic Fields
In addition to the cultural, open, and natural spaces noted, Helen C. White Hall and Memorial Union are the campus connections to Lake Mendota. There is active use of the lake for recreation along this stretch of shoreline. This zone is the most public of frontage on the campus.

Topography and Storm Water Management
Much of the character of College Library and of Helen C. White Hall is a result of the rolling drumlin topography working its way downhill from the west and the south. This can be a bit of challenge moving west up Observatory Drive, especially to those with mobility issues, but the overlook created allows the building prime views of the lake and an apparently tree line on the far shore. The hill also embraces the west portion of the building, disguising some of the mass of the building and provides a series of different views west, south, and north from the three floors of College Library.

Figure 5.1-25: Topographical Map of Helen C. White Hall

Building Forms (building type, height, massing, materials)

Helen C. White embodies many of the principles espoused by the Campus Design Guidelines:

- The building supports the campus civic structure, giving architectural definition to the west edge of Park Street, forms a public open space that is oriented to the central campus. The building embraces this open space that opens to the southeast creating a microclimate that warms early in the day.
- The building has a base, middle, and top. Visual emphasis is given to the ground floor through door and window scale, architectural detailing, and greater floor-to-floor heights.
- The footprint of a large building is minimized to create the public space in front of the building entries.
- The building has an overall symmetry in plan, although asymmetrical massing is introduced to take advantage of the hillside, thus concealing much of the bulk of the building as viewed from John Muir Park. The building uses an assemblage of repeating and overriding forms for interest and economy of costs. Building has a simple, flexible plan.
- Architectural articulation is provided via deep arcades, overhanging walkway plazas and exterior stairs to provide visual interest and to break down the scale.
- The overall massing allows daylight penetration into much of the interior of the College Library portion of the building.

Historic properties, archeological sites, districts, and landmarks

Helen C. White Hall is part of the Bascom Hill Historic District (designated in 1974). The district includes: • North Hall • South Hall • Bascom Hall • Music Hall (aka Assembly Hall and Library Building) • Science Hall • State Historical Society Building • Armory and Gymnasium • Radio Hall (aka Mining and Metal Engineering and Heating Station) • Carillon Tower • Memorial Union • University Club (needs to be reconsidered as contributing) • Lake Lab (aka Hydrobiology Lab) • Water Chemistry (aka Sanitary Engineering and Pumping Station) • Birge Hall • Education Building (aka Engineering Hall) • Mosse Humanities Building • Elvehjem Art Center (aka Chazen Museum of Art) • Helen C. White Hall • Limnology Laboratory Building • Law Building [2].

Modifications to Helen C. White would need to be developed and reviewed cooperatively with the Division of Facilities Planning and Management and the Wisconsin Historical Society to understand the project details, mitigate the affect and provide a final determination on if the project creates an adverse effect on the historic district.
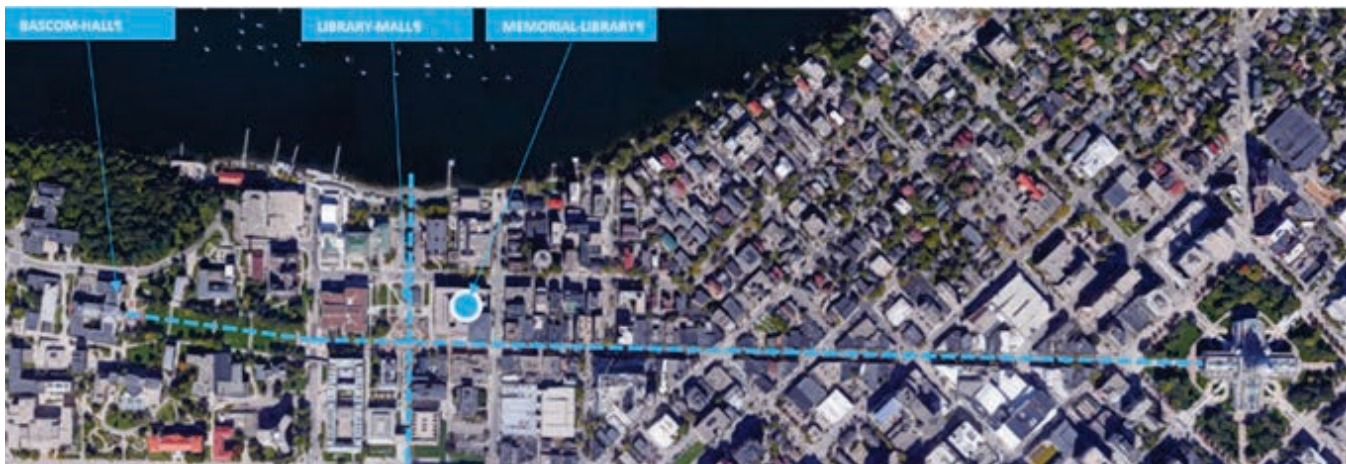
Expansion Potential

It is not anticipated that additional space will be needed in this library, however there is potential for repurposing redundant stairwells if expansion was desired.

Memorial Library
(Institution) Districts

Figure 5.1-26: Library Mall Axes

Control
Control of Memorial Library is by the GLS. In addition to Memorial Library, the building is home to the Mills Music Library and the Special Collections Library. The library is home to central services and GLS administration. Nearby non-GLS facilities include the Wisconsin Historical Society, LGBT Campus Center, Morgridge Center, Gender and Women's Studies Librarian, Wisconsin Center for Film & Theater Research, and the Max Kade Institute for German American Studies.

User Population
Users are drawn from all segments of the university, community members, regional, and international scholars. The extensive special collections holdings are major resources that attract investigators for extended periods. Digital resources, Scholarly Communications, Grant Writing, and Subject Liaisons are based in Memorial Library.

Access
Primary access is via North Lake Street from the south. Connection to North Lake Street is primarily University Avenue or West Johnson Street although Langdon Street from the east and Observatory Drive from the West connect as well. State Street Campus Parking Garage (typically referred to as the Lake Street Ramp) is a City of Madison facility with capacity for 1,062 vehicles. Pedestrian access is via State Street, one of the residential streets from the east, East Campus Mall or North Lake Street from the south. Transit is convenient via a Routes 80 (campus loop), 81, and 82. A major layover is located between Memorial Library and Memorial Union at the north edge of Library Mall.

Identity, Way-finding, Gateway
The Library forms the primary gateway facility onto campus from the State Street pedestrian mall. The mall connects the State Capitol to Bascom Hill. Memorial Library and the Wisconsin Historical Society frame Library Mall, one of the key cultural landscapes on campus. Library Mall and Alumni Park form the north terminus of the East Campus Mall. East Campus Mall and State Street Mall intersect at Library Mall.

There is significant history for GLS on this site. Beginning in 1950, this has been the anchor facility for library service to the campus.

In spite of the history and strategic site, the building has, through time, lost its connection to the surroundings, lost its internal places, and become a maze of occasionally interesting, but more often utilitarian spaces, rarely rising to the level of inspiration defined as essential to the library's success.

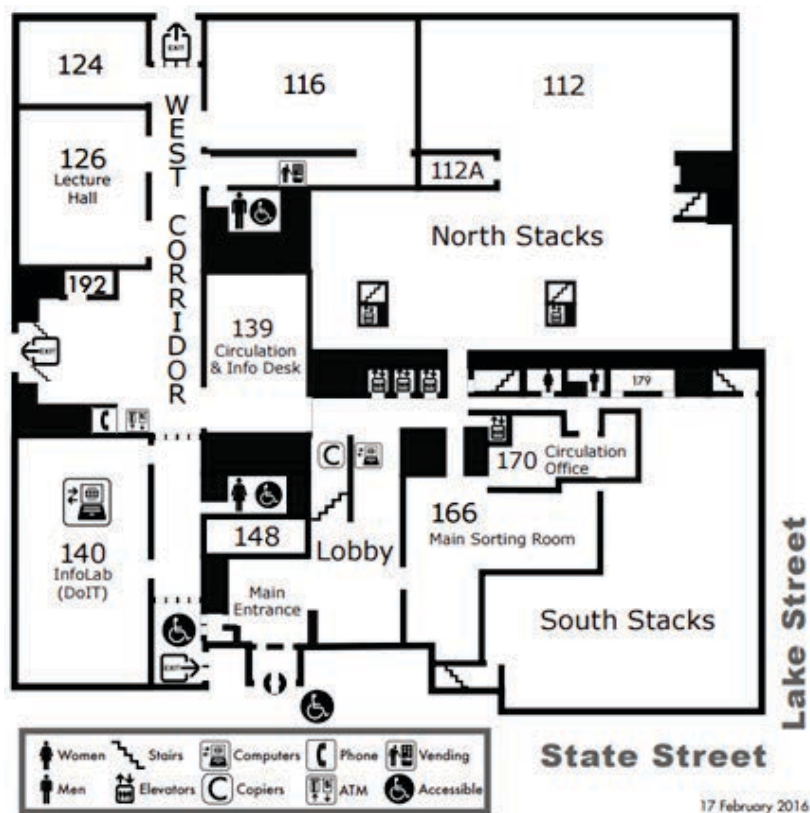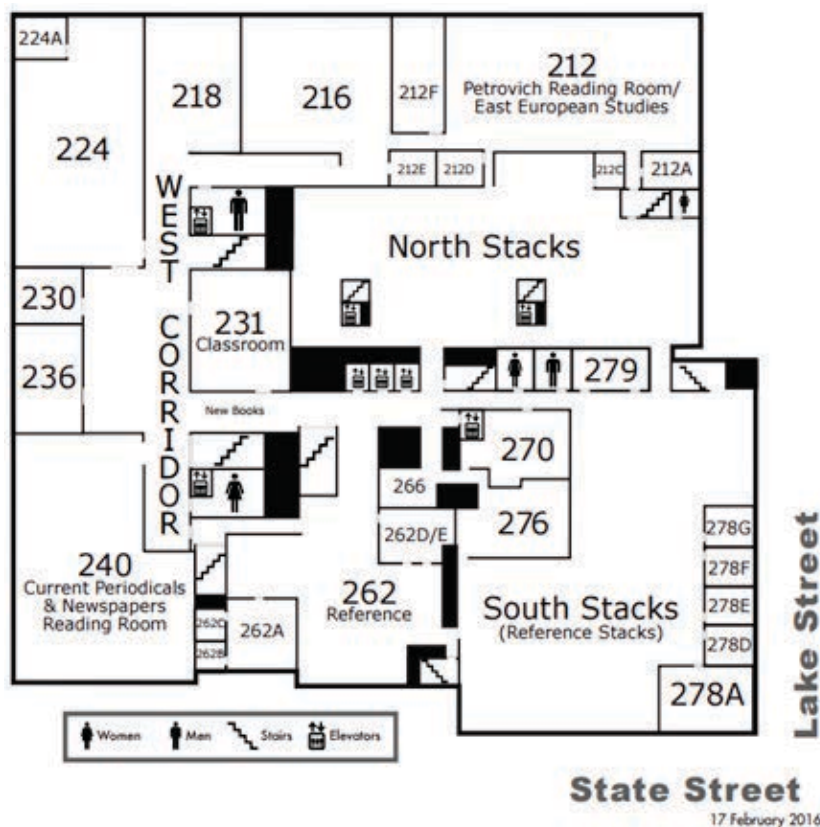**Figure 5.1-27:** First Floor Plan showing ofigonal and current entries.

Figure 5.1-28: Second Floor Plan is indicative of the zoning at the lower levels.

Structure

The Building consists of three distinct components: 1950, 1975, 1988.

- The 1950 building has a public/staff zone along the west and north edges (Library Mall and Langdon Street facades respectively). This zone is generally not capable of supporting book stack loads. These public/staff zones wrap a self-supporting book stack block. This block is effective only as a stack zone, and is limited in that ability (poor lighting, challenging accessibility and way-finding, low floor to floor heights of 8 feet).
- A 1975 addition to the south wrapped the 1950 stack block. The primary entry was moved from Library Mall to the south, facing the State Street Mall. The original 1950 entry is maintained as an entry into the non-secure "West Corridor" which is general purpose casual seating, vending, and access to a computer lab, auditorium and two small securable reading rooms.
- The 1975 wing was expanded vertically in 1988. The majority of the 1975 and 1988 additions are devoted to staff workspaces and collections. Multiple levels of the 1988 addition are structured for high density storage.

All of these expansions resulted in a building that has covered the block and is densely constructed. Mechanical shafts, elevator cores, restrooms and exit stairs generally fall along the lines where the additions meet each other, complicating attempts to make more direct and intuitive connections between the various zones.

The floor to floor heights of the original building and the additions vary. The arrangement of offset floors effectively maximized the storage capacity of the site and allowed the library to accumulate significant collections on site. That arrangement is now a limiting factor in how space can be used or transformed for contemporary needs.

Figure 5.1-29: Memorial Library Building Section looking North
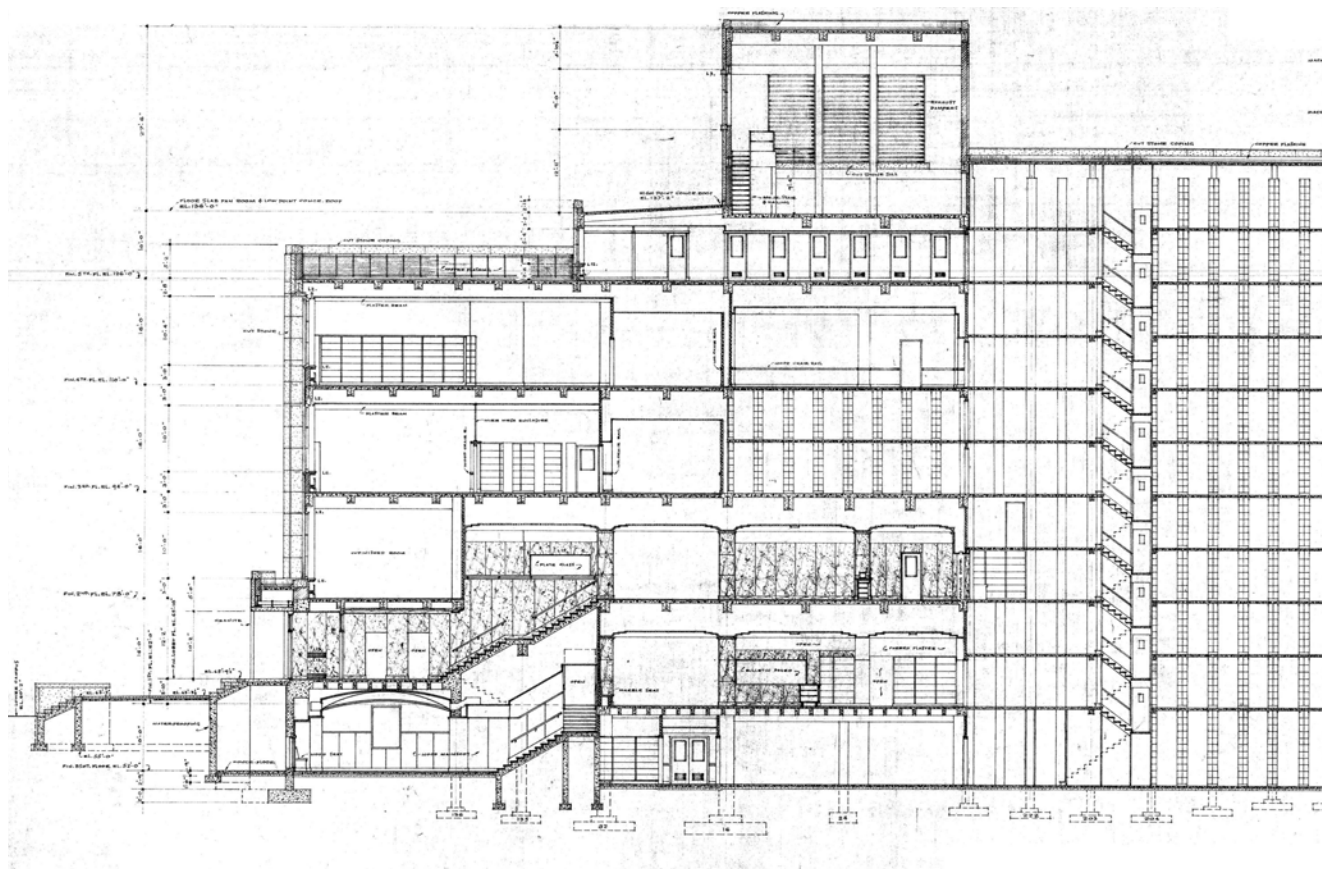
Safety and Security

A large, complex facility built incrementally over decades and remodeled sporadically is inevitably going to be difficult to navigate. The maze of spaces, with attendant convoluted paths between entry and prized public zones, narrow corridors, low ceiling heights, and low light levels, results in a building that is not always easy to control and not always considered safe much less inviting. A basic level of security is provided at the entry – photo identification typically via student ID or driver's license, visually checked by student workers. This is more than nominal but less than true access control. Operational policies are in place to supplement the entry control and address a broad range of concerns. These policies and procedures attempt to balance security for the students, faculty, public, staff and collections while affording access to a significant resource.

Figure 5.1-30: Library Mall (undated photograph)

Open Space and Natural Areas

The East Campus Mall is the defining spatial organizing element, providing free pedestrian movement from south of University Avenue to Library Mall. Library Mall, one of the most prominent and heavily used open spaces on campus, functions as a confluence between the two pedestrian malls at the termination of State Street [2]. The overall nature of a civic hardscape is softened by Library Mall.

Figure 5.1-31: Proposed Alumni Park at North Terminus of East Campus Mall

Recreation and Athletic Fields

The various pedestrian malls are used for a wide variety of informal individual and small group activities, many recreational, many focused on informal learning. The malls, given that they form cross roads, are areas of intense activity, and are a gateway to the campus, also provide an opportunity for more organized assembly.

Building Forms (building type, height, massing, materials)

Memorial Library is a mix of success and failure in responding to the goals established for the campus and expressed in the Campus Design Guidelines.

- Memorial Library does support the campus civic structure, giving architectural definition to the campus streets, quadrangles, and other open spaces. The library fronts directly onto these spaces and to support them by their form, massing. The design of the west and north facades is supportive of the street edge (Langdon) and to some extent the east edge of Library Mall – it is not as open as desired.

- The architectural composition of Memorial Library does in some ways particularly a distinct identity for the buildings along East Campus Mall. This identity could be more legible from critical viewpoints, the west façade, while pleasant, and respectful of the Wisconsin State Historical Society building opposite Library Mall, is a bit understated and gives few if any positive clues for entering the building. The west entry is more attractive than the south (main) entry but gives access to limited portions of the building. Egress is required from these areas to enter the primary library spaces via the south entry. It is something of an eyesore on the overall campus skyline when seen from a distance, lacking distinction in form or material.

- Portions of the building have a discernible base, middle, and top. Other portions have these elements but they do not provide the desired level of visual interest. Visual emphasis at the ground floor through door and window scale, architectural detailing, and greater floor-to-floor heights is missing. The 1950s building is pleasant but introverted lacking the desired increase in window scale and floor to floor heights. The 1975 building is "defensive" in its relationship to the street with large expanses of blank wall softened to an extent by an overhanging second floor to create a sheltering arcade connecting the State Street/Lake Street gateway to the library's main entry.

- The building has multiple components several of which have areas of localized symmetry in plan. The aggregation occurred in a manner intended to minimize disruption and cost at the expense of long term adaptability. Introduction of service, stair and elevator shafts incrementally at the joints between building phases has produced an assemblage of adjacent but marginally interconnected spaces. The result is a buildings form that does not allow for flexibility.

- The building setbacks at upper stories do not use lower roofs as green roofs, balconies, terraces, or gardens.

- The building suffers from a lack of architectural articulation such as changes in material, fenestration, architectural detailing, or other elements to break down the scale. The understated simplicity of the 1950s-building leaned toward elegance. The simplicity in the 1975 and 1988 buildings leans toward banality.

The building would benefit from employing one of the design principles outlined in the guidelines for the Health Sciences Neighborhood, specifically organizing the building around internal open spaces.

Historic properties, archeological sites, districts, and landmarks

Memorial Library is adjacent to key cultural landscapes including Memorial Union Terrace and Library Mall. It is close to Bascom Mall and the State Street Mall leading to the Capitol Square. The building is set in a landscape of landmarks but is not one in itself.

Landscape Treatments
Discussed as part of "Open Space and Natural Areas".

Renovation Potential
The building has great potential in its site and history. Much of the 1950's building has potential and a framework suitable for renovation to accommodate contemporary uses. The 1950's stack block presents two opportunities:

- Keep it and celebrate it as an artifact, continuing to use it for collections with modifications as possible to improve upon its limitations (poor lighting, challenging accessibility and way-finding, low floor to floor heights of 8 feet).

- Replace it with a more open, flexible space with floor to floor heights and column spacing suitable for large area or large volume uses such as assembly, exhibition, visualization, and large group reading rooms (a la the Wisconsin Historical Society reading room.

The 1975 building entry also presents two possibilities. Either would address the current gauntlet that is everything except inviting, expository, or evocative.

- Keep the south facing entry (at-grade, south micro climate, potential visible presence along State Street Mall, line of sight connection to existing elevator core), remove portions of the first-floor mezzanine, second floor and second floor mezzanine to create an internal vertical volume that organizes the building in an immediate and visually intuitive manner, framing destinations at multiple levels to the featured services. This would include paths to assembly, exhibition, visualization, and large group reading rooms, special collections, research hubs, and a glimpse of the remaining physical collection.

- Restore the original 1950's entry as the primary entry via new pavilion that makes an accessible path (at grade, facing, the Historical Society building across Library Mall on the line from East Campus Mall to Lake Mendota at Alumni Park, in line with celebrated stack block or its replacement reading room/atrium (similar to the Health Sciences Learning Center).

Figure 5.1-32: Overview of South Campus Sites
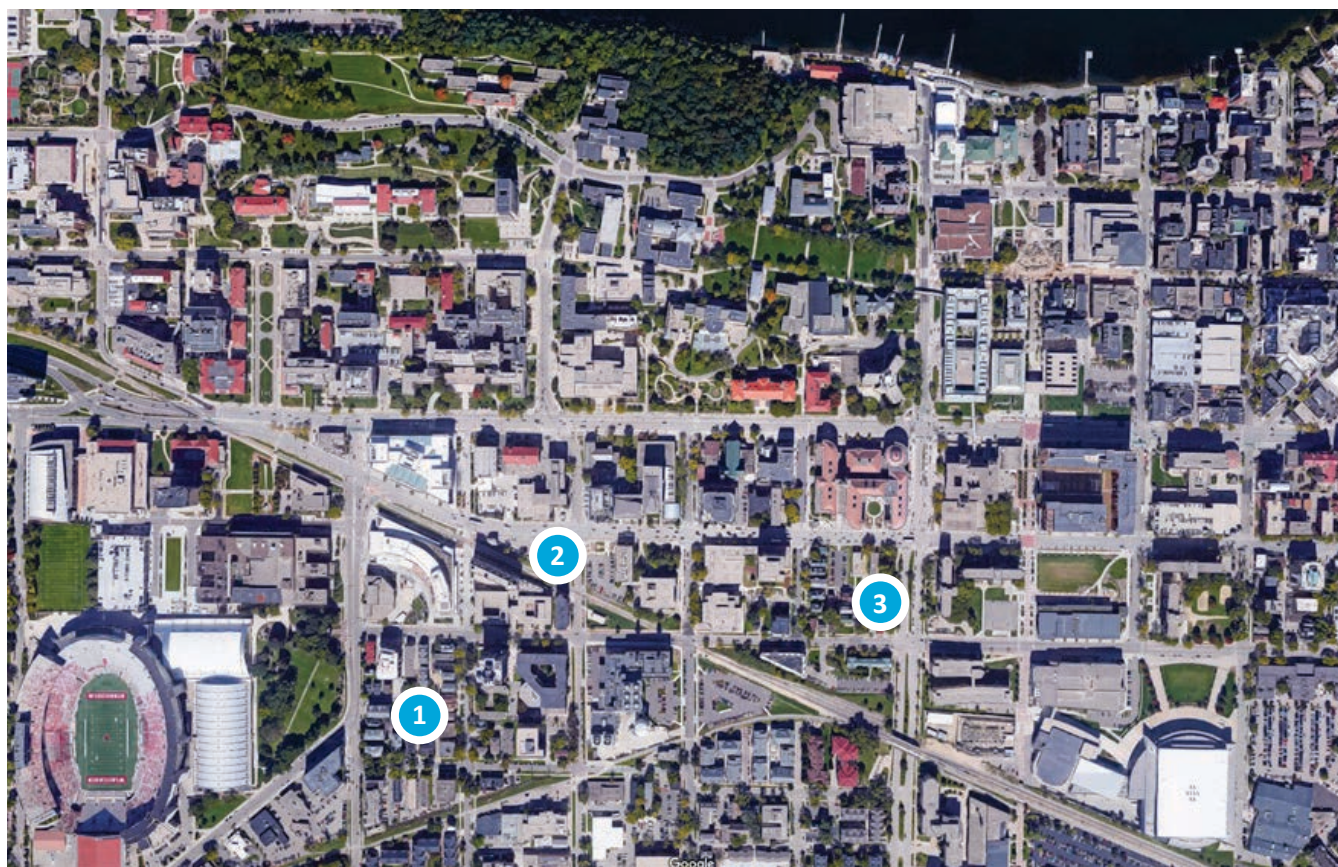
SOUTH CAMPUS SITES

Randall/Monroe Gateway

The Randall/Monroe or Southwest Gateway site is considered in response the large student population of the College of Engineering, the proximity to the geology, computer science departments, and anticipated expansion on the south campus. In some ways it is a shifting of an updated version of Wendt Commons to an adjacent site.

Figure 5.1-33: Aerial of Randall Monroe Gateway

(Institution) Districts

The proposed sites are in an area, bounded by N. Randall Avenue, W. Dayton Street, N. Orchard Street, and Spring Street, is designated as desired acquisitions in the 2015 Campus Master Plan Update.

This is the south entry into one of the university's largest academic programs, College of Engineering (COE), and one that is envisioned for major transformation over the next twenty years. A strategic plan by COE envisions an almost total rebuilding of the facilities on this portion of the campus. Similar, long-term plans are anticipated to replace various science facilities that have reached the end of their utility, including Noland Hall which is part of the College of Letters and Science.

Control

All of the land is not currently controlled by the Board of Regents. Acquisition could take considerable time and come at considerable cost. The south campus is slated for significant development to support the College of Engineering with a new building and a parking structure in the 2035+ window of the 2015 Campus Master Plan Update. The timing is not conducive to the current need.

User Population

The primary users consist of the students, faculty and staff of the College Engineering, Department of Geology, Department of Computer Sciences and other nearby science programs. The library resources needed to support these programs tend to be access to digital collections, minor print, and space for users including hands on learning, study, collaboration, and exhibition.

Access

The site is in an arrival zone at the intersection of West Dayton and Monroe Streets. West Dayton Street connects north to Campus Drive and University Avenue. The Engineering Drive Parking Structure is the primary parking facility in the area with capacity for 634 vehicles. Pedestrian access is via West Dayton Street or Randall Street. Both streets are part of Route 80 (campus loop). The site is one block from the City's Southwest Commuter Path bicycle trail.

Identity, Way-finding, Gateway

A location at the southwest or northeast corner of the block south of Union South would provide either opportunities. The northeast corner offers a continuation of the Union South framing of West Dayton Street with student life and library space. The southwest corner offers a gateway at the intersection of Randall Street and Monroe Street. Both offer good opportunities to connect with open space envisioned as an extension of Camp Randall Memorial Park. This is an opportunity to extend the expression of the libraries being a bridge between the campus and the community, very much in keeping with the library and university missions.

Topography and Storm Water Management

Figure 5.1-34: Topography at Randall & Monroe Streets
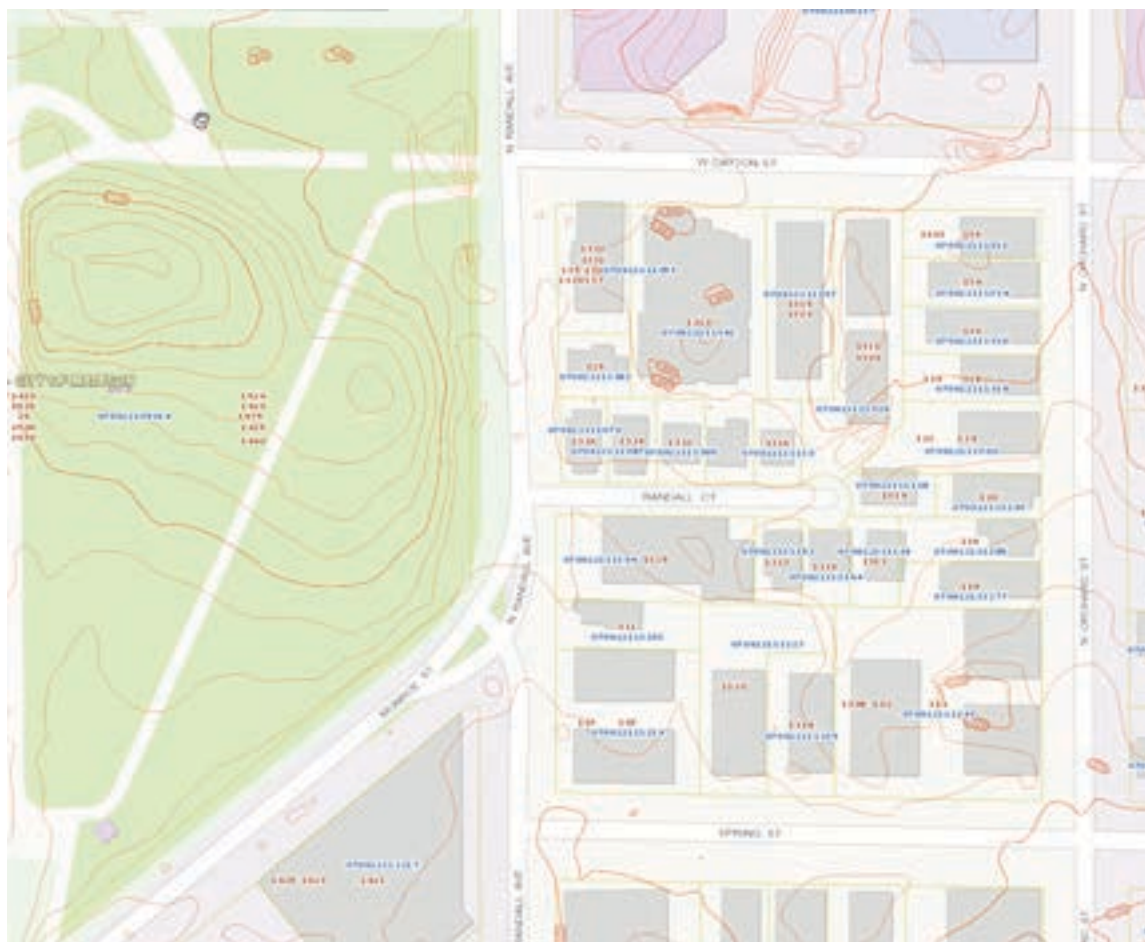
Open Space and Natural Areas

Camp Randall Memorial Park is a key open space on campus. Wendt Commons is planned to be removed to expand open space and connect the park to Union South which lacks the needed open space for events.

Recreation and Athletic Fields

North Randall Avenue is identified as a future "festival street" in support of various student and alumni activates associated with Camp Randall Stadium, Union South, and Camp Randall Memorial Park.

Building Forms (building type, height, massing, materials)

The Campus Design Guidelines identify key attributes of successful projects on the south campus:

- Buildings are to support the campus civic structure, giving architectural definition to the campus streets, quadrangles, and other open spaces. Buildings are to front directly onto these spaces and to support them by their form, massing, and the design of their facades.

- Buildings shall have a base, middle, and top. Visual emphasis is to be given to the ground floor through door and window scale, architectural detailing, and greater floor-to floor heights.

- Minimize footprints as necessary to balance program need with providing an exemplary collegiate setting.

- Begin each new building with symmetry in plan, although asymmetrical ideas can be introduced when necessary. Use an assemblage of repeating and overriding forms for interest and economy of costs. Buildings should follow a typology that will allow for flexibility of simple plan forms.

- Where buildings are set back at upper stories, use lower roofs as green roofs, balconies, terraces, and gardens.

- Buildings to be planned around internal open spaces, courtyards, and/or green roofs.

- Utilize architectural articulation such as changes in material, fenestration, architectural detailing, or other elements to break down the scale.

Historic properties, archeological sites, districts, and landmarks

Camp Randall Memorial Park and Arch are central cultural landscapes on campus and listed on the National Register of Historic Places (1971.) The Park remains an integral part of the life of the University as well as of the State's history.

New Building Potential

Land acquisition in this block is the largest challenge to development followed by integration with the anticipated College of Engineering facility and parking structure. The planned building out of the site is consumed by these structures but there is physical space to add a library element.

This site is a clear expression of the number of students enrolled in engineering programs at the university.

Some coordination of the site and the program needs of the South Hub Library would be required – for example the decision whether or not to include a distributed foundations library component into the south hub or not, and whether to split the south hub into an east component (focused on education, business, innovative and distance learning) and a west component (focused on engineering, computer science, geology and other sciences).

This site is an opportunity to extend the expression of the libraries being a bridge between the campus and the community, very much in keeping with the library and university missions.

Figure 5.1-35: Aerial View of Meiklejohn House Site
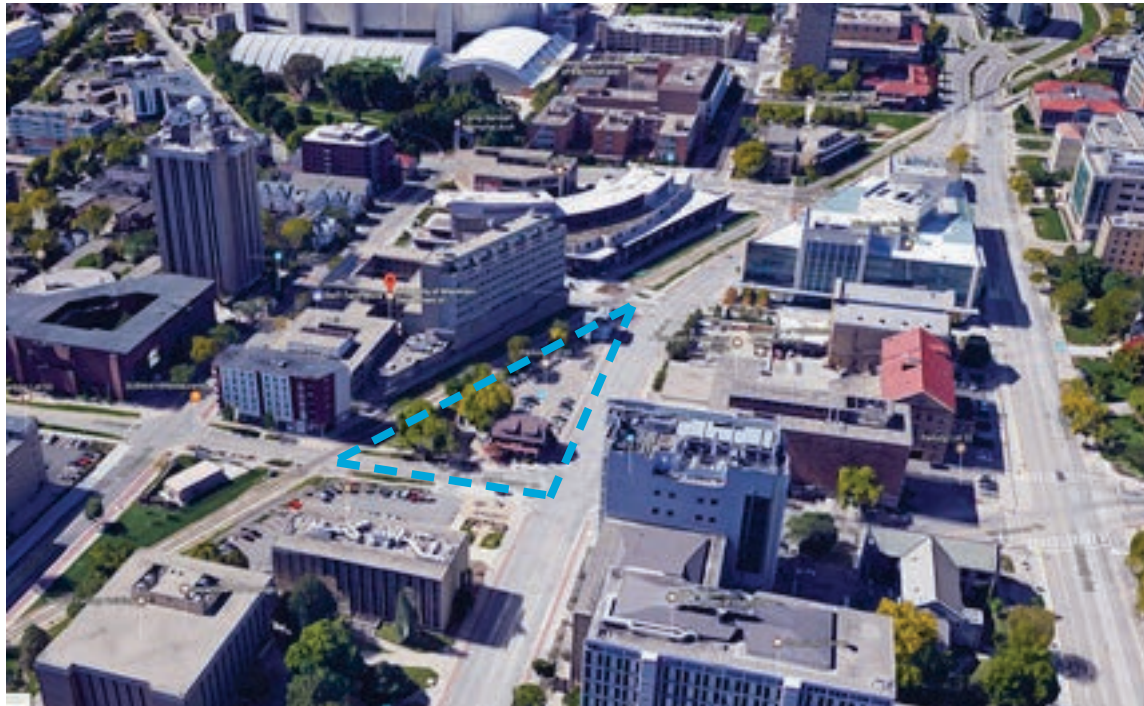
Control

The site is a small triangle of land mostly controlled by the Board of Regents. Acquisition of the remaining small parcel at 222 N Charter, is identified in the 2015 Campus Master Plan Update. The timing of this acquisition is unknown.

There are other concerns related to control of another site:

• Coordinating the prerequisite projects to allow development of the site for library uses. Relocation of the Meiklejohn House, a building eligible for inclusion on the National Register of Historic Places. [1]

• Coordinating the other projects on or adjacent to the site to allow maximum development of the site within the Campus Master Plan. In this case, there are no specific use is identified for the site. An initial allocation of 84,470 sf for an academic/research building is included in the 2029 to 2035 phase of the 2015 Campus Master Plan Update.

User Population

The site is at the crossroads between the College of Engineering; various science departments including Chemistry, Zoology, Geology, and Atmospheric, Oceanic and Space Sciences; the School of Education; and the Department of Psychology. It is near an existing hub of activity formed by Union South and the Wisconsin Institutes for Discovery. All of these suggest a diverse user population with a variety of needs and expectations of library related services.

The library resources needed to support these programs tend to be access to digital collections, minor print, and space for users including hands on learning, study, collaboration, and exhibition.

Figure 5.1-36: Programs adjacent to the Meiklejohn Site

Access

The site is convenient to University Avenue (from the east), N. Johnson Street as a continuation of Campus Drive (from the west) and W. Dayton Street (from the east and west). N. Charter Street is useful from both the north and south. N. Orchard Street provides the loop to support east bound traffic on University Avenue looping to N. Johnson Street. Parking is sparse. The largest proximal facility is the Engineering Drive Ramp. Transit is convenient with Route 82 adjacent to the site at the intersection of W. Johnson Street & N. Charter and Route 80 (campus loop) one block away at the intersection of W. Dayton Street & N. Orchard Street.

For pedestrians and bicyclists, the site has been identified as an area in need of improvement. North Charter Street between W. Dayton Street and University Avenue is a primary north-south route connecting north campus with campus and neighborhoods to the south. There is a need for bicycle accommodations on N. Charter Street between W. Dayton Street and University Avenue.

A complicating factor is the railroad line running along the diagonal south edge of the site. Frequency, length and speed of trains using the line should be considered.

Identity, Way-finding, Gateway

The site is located at the juncture of Campus Drive and W. Johnson Street. Johnson is the major east bound partner to the west bound traffic on University Avenue. It offers an opportunity to create a node of district services with the existing of activity and visual identity of an emerging neighborhood formed by Union South and the Wisconsin Institutes for Discovery.

Safety and Security
The presence of the railroad needs to be considered in terms of overall safety at the crossing.

Open Space and Natural Areas
The site sits between two locations that are envisioned as major open spaces on campus. The expansion of Camp Randall Memorial Park by the removal of Wendt Commons at some point in the future (sometime after 2035 in the phasing strategy outlined in the 2015 Campus Master Plan Update) will serve the west side of the south campus. A south campus quad (OS-S-15, phase 2), paired with buildings at the Johnson Park site (S-13 and S-13A; phase 1) will serve the east end of the south campus. See figure 5.1-40.

Recreation and Athletic Fields
Gordon Common Dining and Event Center and Southeast Recreation Facility (SERF) are at the east end of the south campus. SERF is the nearest recreational facility. The 2013 Recreational Sports Master Plan recommends the removal of the existing SERF and reconstruction of a larger and re-programmed facility (S-32) on the same site (now in construction.) The building will serve the residents of the southeast residence hall neighborhood. It will be dedicated to Recreational Sports, other than sharing a 50-meter competition pool and separate diving well with the Division of Intercollegiate Athletics. [1]

Camp Randall Memorial Sports Facility is at the east edge of Camp Randall Stadium, adjacent to Camp Randall Memorial Park. This facility is half the distance from the Meiklejohn site as is SERF.

Building Forms (building type, height, massing, materials)
The same planning principles that apply to the Randall/Monroe Gateway site apply to the Meiklejohn site. The impact of Computer Sciences building, with its north tower paralleling the railroad and the south edge of the Meiklejohn site will have an impact on the development of the site. Understanding the long-term future of the Computer Sciences building will be important in developing the Meiklejohn site.

Historic properties, archeological sites, districts, and landmarks
Meiklejohn House is eligible for inclusion on the National Register of Historic Places. Camp Randall Memorial Park is the nearest historically significant site.

Site Potential
Key attributes of location, between multiple signature colleges, schools and departments, and fairly center between Breese Terrace at the west edge of the College of Engineering and North Park Street, at the east edge of the School of Education, and prominence on the Campus Drive-Johnson Street curve, this site is an identifiable and signature site within the south campus. Its compactness and targeted density suggests a multiple story building (5 stories at 15,000 sf on average for an 85,000 sf building) may not sit the internal organization need for an effective Library. Larger floor plates are generally considered best practice. The total site area of 27,495 square feet may be an issue in this regard. The transformation of library service may diminish this preference in favor of greater separation of activity zones by level.

South Quad (Johnson/Park) Site
(Institution) Districts

Control
The site is envisioned as a combined block formed by W. Johnson Street, N. Park Street, W. Dayton Street and N. Mills Street. The western portion of the block is Teacher Education Building and Educational Science Building. The eastern portion of the block is a new academic building and parking, preferably under the building if funding allows. The portions of the double block are separated by a pedestrian path connecting Dayton and Johnson Streets (currently Brooks Street). This path is framed by the buildings and by a south campus quadrangle.

The parcels that comprise the future site are a patchwork of ownership. The Board of Regents controls 20 of the 30 parcels with the remaining being in private hands and the university continues to pursue land acquisition in this area.

There are concerns related to control of another site: Coordinating the other projects on or adjacent to the site to allow maximum development of the site within the Campus Master Plan. In this case, there are significant expectations of the site, including parking and relocation of portions of the Mosse Humanities functions.

User Population
The site is at the crossroads between significant student housing (including Sellery, Witte, Ogg, Smith and Merit); various science departments including Chemistry, Zoology, Geology, and Atmospheric, Oceanic and Space Sciences; the School of Education; the School of Business; and the Department of Psychology. All of these suggest a diverse user population with a variety of needs and expectations of library related services. Though a bit removed, the site is also relatively close to the site of the relocated art programs from Mosse Humanities Building.

The library resources needed to support these programs tend to be access to digital collections, minor print, and space for users including hands on learning, study, collaboration, and exhibition. Specialized areas that support exploration of new instructional and learning methodologies are relevant to adjacent programs, in particular the School of Education and the School of Business.

Figure 5.1-37: South Quadrangle Site and Current Adjacent Uses

Access

The site is convenient to University Avenue (from the east), W. Johnson Street as a continuation of Campus Drive (from the west) and W. Dayton Street (from the east and west). N. Park Street is a major connector into the Campus from Highway 18 at the south edge of Madison. For many this is the primary entry to the University. N. Mills Street is useful from both the north and south. N. Brooks Street provides the loop to support east bound traffic on University Avenue looping to W. Johnson Street. N. Mills Street and N. Charter Street can also function to support this looping. Parking is sparse. The largest proximal facility is the Lake & Johnson Ramp. Grainger Hall Parking is closer but more limited. Transit is convenient with Route 82 and Route 80 (campus loop) serving the corner of W. Dayton and N. Park Streets.

For pedestrians and bicyclists, the site is relatively free of the issues identified in the 2015 Campus Master Plan Update for other locations. The City of Madison Southwest Commuter Trail is convenient for bicyclists. This trail and the rail line utilize an overpass of Park Street – Park Street being depressed below the rail lines and bike path. The return of Park Street to prevailing grade has generally been accomplished by the south edge of the West Dayton Street intersection.

Identity, Way-finding, Gateway

The Park Street Corridor is one of the primary entry routes into the university. The passing under the railroad overpass marks the start of the "on-campus" experience. An intense zone of residence halls gives way to the intensity of University Avenue and then the central campus with its historic neighborhood leading to Lake Mendota. The intersection of Park and Dayton offers the opportunity for an academic building to make an arrival statement. A library element could be this statement component.

Topography and Storm Water Management

The site continues a general north to south fall with the south edge of the site along W. Dayton Street being 12 to 14 feet lower than the north edge along W. Johnson Street. More of this is generally north of Clymer Place. This presents opportunity to integrate parking into the hillside.

Figure 5.1-39: Topography at Johnson/Park Site

Open Space and Natural Areas

The planned development of a south campus quad will fill a need for open space between Camp Randall Memorial Park (and the future Union South extension of the Park) and the open lawns north of the Kohl Center and Gordon Commons.

Figure 5.1-40: South Campus Quadrangle, 2015 Campus Master Plan Update

Recreation and Athletic Fields

The site is near an existing hub of activity formed by the Gordon Dining and Event Center, SERF, and the Kohl Center. SERF is being replaced by a larger and re-programmed facility (S-32) on the same site. The building will serve the residents of the southeast residence hall neighborhood. It will be dedicated to Recreational Sports, other than sharing a 50-meter competition pool and separate diving well with the Division of Intercollegiate Athletics. [1]

Building Forms (building type, height, massing, materials)

The Campus Design Guidelines identify key attributes of successful projects on the south campus. The 2015 Campus Master Plan Update diagram for this site incorporates these principles:

- Buildings are to support the campus civic structure, giving architectural definition to the campus streets, quadrangles, and other open spaces. Buildings are to front directly onto these spaces and to support them by their form, massing, and the design of their facades.

- Buildings shall have a base, middle, and top. Visual emphasis is to be given to the ground floor through door and window scale, architectural detailing, and greater floor-to floor heights.

- Minimize footprints as necessary to balance program need with providing an exemplary collegiate setting.

- Begin each new building with symmetry in plan, although asymmetrical ideas can be introduced when necessary. Use an assemblage of repeating and overriding forms for interest and economy of costs. Buildings should follow a typology that will allow for flexibility of simple plan forms.

- Where buildings are set back at upper stories, use lower roofs as green roofs, balconies, terraces, and gardens.

- Buildings to be planned around internal open spaces, courtyards, and/or green roofs.

- Utilize architectural articulation such as changes in material, fenestration, architectural detailing, or other elements to break down the scale.

Historic properties, archeological sites, districts, and landmarks

Sellery Hall was listed on the Wisconsin Architecture and History Inventory in 1973, but is not listed on the National Register for Historic Places.

Site Potential

As part of a near term development zone (identified in the 2015 Campus Master Plan Update as a 2017 to 2023 goal), the site could offer a much-needed south campus library location sooner than many other potential sites. The capacity of the site has been identified as 348,000 gsf for academic and research uses. Its proximity to student housing on the south campus, the School of Business, the School of Education, and significant departments within the College of Letters & Science are all increase the GLS ability to address shortcomings in the current distribution of space, seats, and service.

This site is an opportunity to extend the expression of the libraries being a bridge between the campus and the community, very much in keeping with the library and university missions. Any development of a south campus library on this block would need to be coordinated closely with the proposed parking and academic facilities as shown in the 2015 Campus Master Plan Update.

South Campus: Summary of Potential Sites

Figure 5.1-41: South Campus Library at Randall Monroe Gateway

Figure 5.1-42: South Campus Library at Meiklejohn Site

Figure 5.1-43: South Campus Library as part of Johnson Park Redevelopment

5.2 EXISTING FACILITY CONDITION AND FUNCTIONALITY SUMMARY

The physical condition and functionality of the selected campus libraries was undertaken to understand the contribution of each to the overall whole, determine the opportunities and constraints of remodeling and to inform the development of future project costs. The master plan focuses on 17 of the over 40 library locations that house 21 individual libraries which have been identified as campus libraries during Consolidation Planning.

Concurrent with the assessment of the physical condition and functionality of the libraries, an analysis of existing space use was completed that together with the benchmarking, is used to define the current state of the libraries. A summary of the libraries is included in the table below, the detailed existing space programs are included in Section 4.1.

Table 5.2-1: Summary of Campus Libraries included in Report

TYPE	LIBRARY	NET ASF	COMMENTS
A	Memorial	322,020	
T	Memorial- Special Collections	22,089	
T	Memorial- Music	16,093	
A	Steenbock	66,588	
T	Steenbock- UW Archive	13,410	
T	College	93,897	
T	Art	13,042	See DFD Project #15A2Y
T	Astronomy	1,979	Recently renovated
T	CCBC	4,752	Recently renovated
T	Chemistry	364	Construction underway
T	Geography	8,162	See DFD Project #15A2Y
T	Geology	8,514	
T	Math	6,534	See DFD Project #15A2Y
T	Physics	6,411	See DFD Project #15A2Y
T	Social Science	2,852	
T	Social Work	3,852	See DFD Project #15A2Y
T	Business	30,784	Design underway
T	Wendt	14,639	Recently renovated
P	MERIT	18,588	
P	Law	54,679	
P	Health Sciences	39,294	
S	Steenbock- SLSF	6,228	On campus storage facility
S	Middleton	5,392	On campus storage facility
S	Verona	10,000	Off campus storage facility
	TOTALS	770,163	

TYPES: A = Autonomous, T = Tenant, P = Professional, S = Storage.

CONDITION ASSESSMENT METHODOLOGY

For evaluating the physical condition of the libraries, the team considered the categories of envelope, interiors, building systems, and code & life safety. WIthin each category, the physical condition of individual items were rated on a scale from 1 to 7 in accordance with Table 5.2-2.

In addition to the physical condition, each library was graded on suitability to support current use in terms of the physical aspects of the space, current code compliance and overall sustainability according the Table 2.2-2. **Figure 2.2-3** is an overview of the findings described in more detail in the following pages.

Table 2.2-2: Key to Condition and Functional Ratings.

A	**[1] :**	**Excellent**	condition, no renovation required.
B	**[2]** :	**Satisfactory**	condition, minimal renovation required.
C	**[3]** :	**Fair**	Condition, moderate renovation required.
D	**[4]** :	**Poor**	condition, significant renovation required.
F	**[6]** :	**Unsatisfactory**	condition, major renovation or replacement required.

Figure 2.2-3: Overview of Ratings by Library,
* indicates library recommended for consolidation by the Consolidation Working Group in 2015.
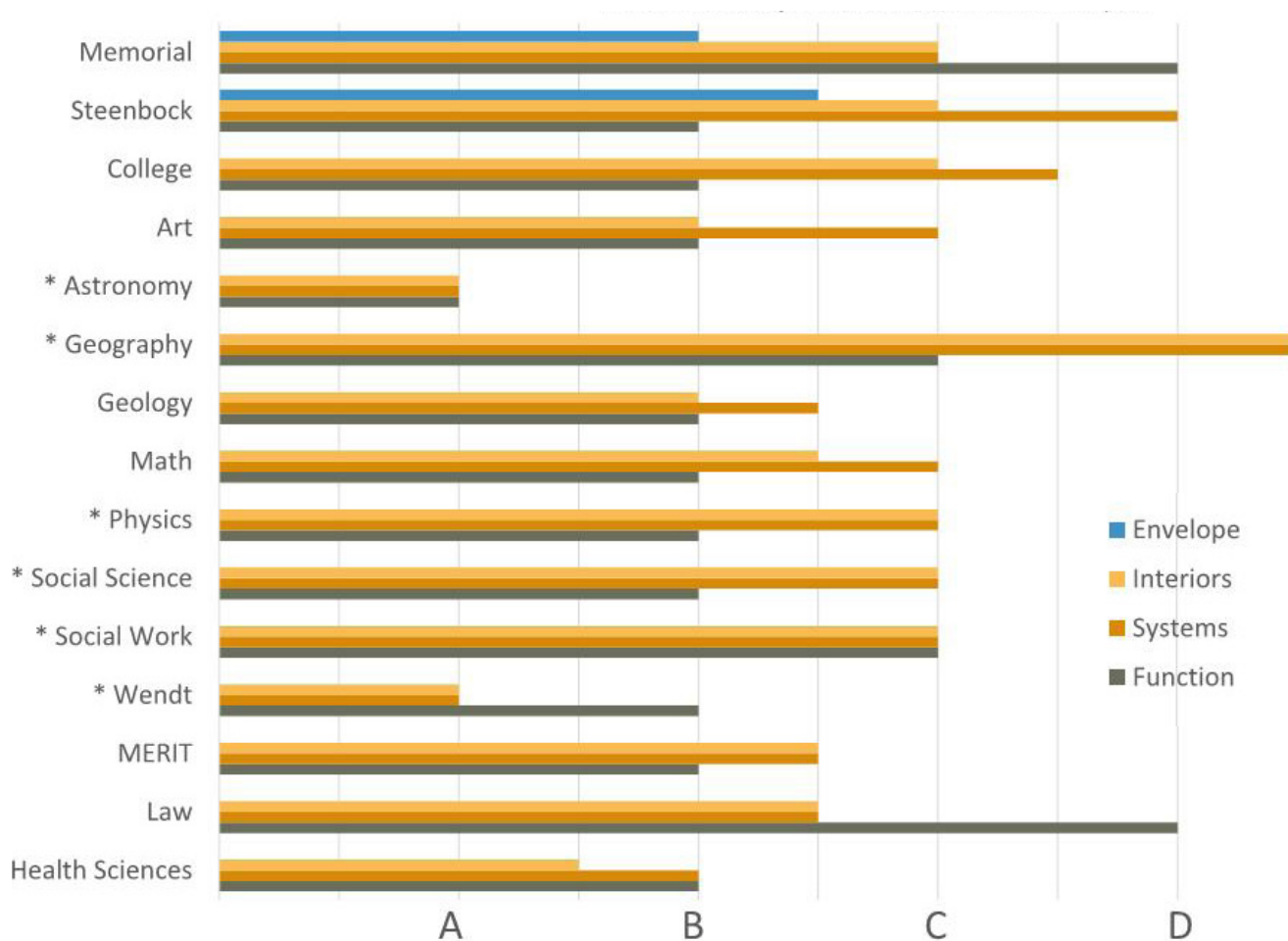
CONDITION ASSESSMENT SUMMARY

Memorial Library (including Special Collections and Music):
With over 400,000 gross square feet under its roof, Memorial Library contains almost half of all the library space considered in this study. The building was originally built in 1950 with additions in 1978 and 1988. While many of the original systems and finishes remain, a few interior spaces have been recently renovated and are in excellent condition.
A summary of the condition assessment is as follows:
• The building envelope is satisfactory, with outdated windows the primary concern.
• The building interior is satisfactory to poor.
• The MEP systems fall between satisfactory to poor, with outdated electrical distribution components, unit heaters and fire protection systems of the greatest concern.

Steenbock Library (including UW Archives and Science Library Shelving Facility):
With almost 82,000 gross square feet under its roof, Steenbock Library is the 3rd largest on campus and the only freestanding library other than Memorial. The building was originally built in 1967 with a major mechanical replacement project in 2006. A portion of the first floor was renovated in 2015 as partner space, the BioCommons.
A summary of the condition assessment is as follows:
• The building envelope is satisfactory to fair, with water intrusion concerns at the face brick.
• The building interior is satisfactory to poor, other than the good condition of BioCommons.
• The MEP systems average poor, with no fire suppression, obsolete generator, outdated electrical distribution components, and cabinet heaters of the greatest concern.

College Library:
College Library is located on the first three floors of White Hall. A condition assessment was recently completed for the envelope as part of the master plan for the College of Letters & Science. With over 100,000 gross square feet, College Library is the second largest on campus. The library was originally built in 1969 with major interior renovations in 2000, and recently completed partnership projects on the 2nd and 3rd floors, east wing.
A summary of the condition assessment is as follows:
• The building interior is satisfactory to fair overall.
• The staff spaces and restrooms rated unsatisfactory.
• The MEP systems fall between fair to poor, with outdated electrical distribution components, and a lack of fire protection systems of the greatest concern.

Tenant Libraries:
The tenant libraries are housed completely within other buildings and were assessed for their interior condition only. These libraries; Astronomy, Chemistry, Geography, Geology, Math, Physics, Social Science and Social Work, combined house 44,600 square feet of library space. None of these libraries contain restrooms, but rely on the building to provide adequate facilities.
A summary of the interior condition assessment is as follows:
• The Astronomy Library was renovated in 2015 and is in good condition.
• The Geography Library is in poor to unsatisfactory condition.
• The Geology Library is in satisfactory condition.
• The Math Library is in satisfactory to fair condition.
• The Physics Library is in fair condition.
• The Social Science Library is in fair condition.
• The Social Work Library is in fair condition.
• Wendt Library was renovated in 2016, it is not included here and is considered good.
• The Chemistry and Business Libraries are planning renovations.

Professional Libraries:

MERIT Library:
Merit Library occupies 21,000 sf on the 3rd and 4th floors of the Teacher Education Building, built in 1972. The Children's Cooperative Book Center contains 4,800 sf adjacent to the upper level of MERIT Library, moving to this location in 2016.
A summary of the condition assessment is as follows:
- The building interior is in satisfactory to fair condition.
- The MEP systems fall between satisfactory to fair, but lack a fire suppression system.

Law Library:
The Law Library is over 60,600 sf spread over six levels of the Law School Building and occupies portions of the original 1938 building and the 1994 addition.
A summary of the condition assessment is as follows:
- The building interior is satisfactory to fair condition.
- The MEP systems fall between satisfactory to fair, but lack a fire suppression system.

Health Sciences (Ebling) Library:
The Health Sciences Library is located on the 2nd and 3rd floors of the Health Sciences Learning Center, built in 2004. A renovation is in the planning phase for the south side of the 3rd floor, an area excluded from this study. The Library will occupy 43,000 sf after the planned renovations.
- The building interior is in good condition.
- The MEP systems are satisfactory, except for the outdated HVAC controls.

FUNCTIONAL ASSESSMENT SUMMARY
Ongoing planning efforts by GLS and the master plan consultant team have identified current libraries suitable for ongoing library service delivery, and others have been identified as ready for consolidation. The libraries identified as suitable for continued use as libraries have been evaluated for their renovation potential to meet the functional requirements of the proposed program. The libraries that are considered for consolidation have been evaluated for backfill potential.

Memorial Library
Fundamental to understanding the potential of the existing building for remodeling is the history of its development.

The original building built in 1950 faces Library Mall, opposite the Historical Society, and consists of generous public spaces with 16 ft. floor to floor heights wrapping around a dense block of stacks, with two floors for every public floor. The public floors are not structured to support book stacks and the proportions of the stack floors are ideal only for warehousing books.

In 1975, an addition was built to fill the block, with four floors adjacent to the original building and two at the southeast corner, relocating the entrance to face State Street. The floors were designed to align with the existing, adding public lobbies at the primary circulation lobbies at every stack floor. With ceiling heights, less than 8 ft. they provide a utilitarian atmosphere to much of the library, the original grand public spaces now found only after migrating through the dense stack blocks.

In 1988, the southeast corner was expanded vertically, adding seven floors above the original four. The new structure was set at 12 ft. floor to floor heights, starting at the 3rd floor, connecting at the utilitarian public elevator lobbies, resulting in the 4th and 5th floors becoming inaccessible when the elevator to the 9th floor is locked. A dense cluster of columns was installed thru the existing lower levels, designed to support compact

DFDM Project #15H1L

PAGE 91

shelving, which is installed on five of the seven floors of the expansion.

As library service models shift from the warehousing of books to the notion of space as service, the building becomes less functional. The following chart describes the parts of the building and the potential to support future library functions:

STRUCTURAL SUITABILITY	1950 Public	1950 Stacks	1975 Public	1975 Stacks	1988 Addition	1950-75
Bsmt.						
Area in square feet	85,560	86,742	8,478	42,527	93,344	35,752
Floor heights	16 ft.	8 ft.	16 ft.	8 ft.	11-12 ft.	11 ft.
Suitable for collections	No	Static	Static	Static	Compact	Compact
Suitable for larger patron spaces	Yes	No	Yes	No	Yes	Maybe
Suitable for smaller patron spaces	Yes	No	Yes	No	Yes	Yes
Suitable for staff spaces	Yes	No	Yes	No	Yes	Yes
Suitable for partner spaces	Yes	No	Yes	No	Maybe	Maybe

In addition to the limitations of the structure, the team evaluated the additional aspects of the functionality of the building:

Vertical Circulation:
The circulation between the various levels occurs primarily by elevator. A single grand stair connects the entry lobby to the 2nd floor and an enclosed stair located adjacent to the elevators connects all levels. These circulation components provide access primarily to stack blocks, locations of larger study spaces, resources and instructional spaces are less clear, communicated primarily by signage.

Of the eight staircases connecting all levels in their locations, only three exit to the exterior of the building. The primary circulation stair described above is not one of them.

The building contains nine passenger elevators, four dating back to 1950, the other five installed in 1988; three serving as the primary public access to stack blocks, one dedicated to serving the 9th floor only and one for staff use. The number of elevators results from the poor interior planning and exceeds the needs of the building occupants, placing undue pressure on operations and maintenance budgets.

Floor Plate Configuration:
The internal organization of the building is unclear upon arrival and some of the most heavily used spaces require assistance for a first-time visitor. The lack of alignment between floors led to the installation of permanent features, such as stairs and elevators, at the center of the building, dividing the floors into three distinct areas without strong connections. These features limit the ability to reconfigure the interior without the costly relocation of these services.

FUNCTIONALITY	Comments	Rating
Northwest Structure		
(26% of net building area)	The 1950's public spaces could house a wide variety of uses given the taller ceiling heights	B
Center Structure	The 1950's stack block is purpose built for book storage, with columns on a 9-ft. grid and less than 8 ft. ceilings, other uses are limited without selective demolition.	F

South East Structure	The 1975-1988 structure has low ceiling heights at the lower levels and taller at the upper levels, capable of supporting some future uses.	D
Vertical Circulation	Locations are undesirable for reconfiguration	D
Floor plate Configuration	Floor levels and fixed elements break continuity	D
Ease of Reconfiguration	Floor levels and fixed elements limit flexibility	D
Accessibility	Floor levels and restrooms accessibility is limited	D
Provision of Restrooms	Quantity increase required as people replace books	D
Access to power and data	Quantity and quality need improvement to support future program needs.	C
Flexibility of mechanical systems	Distribution is adequate, shafts add to inflexibility	C

STEENBOCK LIBRARY
Steenbock Library, built in 1969, is a cast concrete structure with masonry and glass infill with five levels.

Structure:
The structural layout is flexible. The concrete columns are generously spaced on a 27-ft. grid and the floor to floor heights are adequate at 13'-4". While decorative waffle slabs exist in key areas, the typical 8" floor slab provides flexibility for distribution of building services, is limited to the support of static bookshelves only. Compact shelving is used, and allowed, at the lower level only.

Vertical Circulation:
The building is served by two elevators, one public and one staff, conveniently located between the public and staff zones of the library. While small by current standards, the elevators meet current accessibility requirements.
The two exit stairs are substantial, generously sized and well-spaced, exiting directly to the exterior.

Floor Plate Configuration:
The internal organization of the building is clear, the primary public spaces are flexible and open, services are appropriately clustered on the south side of the building. While existing windows are limited, the structure would allow for additional glass to be installed as appropriate.

FUNCTIONALITY	Comments	Rating
Structure (See above)	Flexible column spacing and adequate height	A
Vertical Circulation	Quantity and locations are satisfactory	B
Floor plate Configuration	Flexible with fixed elements well located	B
Ease of Reconfiguration	Flexible with fixed elements well located.	B
Accessibility	Restroom accessibility is limited	B
Provision of Restrooms	Quantity increase required as people replace books	C
Access to technology	Quantity and quality need improvement to support future program needs.	C
Flexibility of mechanical systems	Recently upgraded, adequate distribution.	B
Expansion Potential	Expansion to the east as described in Section 5.1.2	A

COLLEGE LIBRARY

College Library, built in 1969, is a cast concrete structure with masonry and glass infill. The library occupies the lowest three floors, with 8 floors of academic space above and two levels of parking below.

Structure:

The structural layout is flexible. The concrete columns are generously spaced on a 30-ft. grid and the floor to floor heights are adequate with 15 feet at the first floor and 13 feet at the second and third. The typical floor slab provides flexibility for distribution of building services, and is adequate for the primary use of the space by patrons for study, instruction and access to technology.

Vertical Circulation:

The building is served by two elevators, used by both public and staff, conveniently located at the central lobby of each floor. While small by current standards, the elevators meet current accessibility requirements. Two public stairs connect the library levels and are generous, open and offer views back to campus. The proximity of these two stairs to each other is somewhat redundant and one could easily be repurposed to other uses. Three exit-only stairs are well placed for life safety and exit to the exterior of the building.

Floor Plate Configuration:

The internal organization of the building is clear, the primary public spaces are flexible and open. The public spaces have ample access to natural light and pleasant views.

Restrooms:

Typically, restroom quantities in libraries have been sized as appropriate for a building with the dual function of providing user space and storing book collections. As collections are reduced or relocated to make space for additional people, the quantity of restroom fixtures needs to increase in proportion. While currently College Library's fixture count is inadequate for the current use, a project is underway to renovate the restrooms to meet current standards.

Access to Technology:

The library has undertaken to increase access to technology using raised floors during recent renovations at the east wing and currently with the upgrades to spaces to be used by the SOAR program this summer. Overall, the approach seems adequate and would be more successful if implemented throughout the facility to limit the ramped transitions.

Category	Comments	Rating
Structure (See above)	Flexible column spacing and adequate height	A
Vertical Circulation	Quantity and locations are satisfactory	B
Floor plate Configuration	Flexible with fixed elements well located	B
Ease of Reconfiguration	Flexible with fixed elements well located.	B
Accessibility	Restroom accessibility is limited	B
Provision of Restrooms	Quantity increase required as people replace books	C
Access to technology	Quantity and quality need improvement to support future program needs.	C
Flexibility of mechanical systems	Recently upgraded, adequate distribution.	B
Expansion Potential	Expansion to the east as described in Section 5.1.2	A

TENANT LIBRARIES – SPACES AVAILABLE FOR BACKFILL:

The tenant libraries included below are under consideration for consolidation and the spaces they currently occupy may become available to campus for other uses. Their functional condition is summarized below:

The Business Library is planning renovations to the current space within Grainger Hall. If the library is consolidated as part of the masterplan, the 34,093 gross square feet of space would become available for School of Business uses, including partnerships that will be part of the upcoming renovation.

The Chemistry Library has already been consolidated, the collection has been relocated and the new building under construction will house an office for a librarian within an information commons.

Library	Space	Comments	Rating
Art Elvehjem 2nd Floor (B)	13,236 NSF 11'-6" FTF	Prime location within larger building. Lower level storage occupies tiered classroom. Suitable for typical acedemic uses.	B
Astronomy Sterling Hall 6th Floor	1,979 NSF 12'-0" FTF	Location difficult to find within larger building. Recently renovated, large shafts interrupt space. Suitable for typical acedemic uses.	A
Geography Science Hall 2nd Floor	8,162 NSF 17'-4" FTF	Large flexible spaces in need of renovation. Recommend removal of mezzanine level. Suitable for typical acedemic uses.	C
Geology Weeks Hall 4th Floor	8,521 NSF 10'-0" FTF	Location difficult to find within larger building. Large flexible spaces in good condition. Suitable for typical acedemic uses.	B
Math VanVleck Hall 2nd-3rd Floor	7.254 NSF 10'-0" FTF	Location difficult to find within larger building. Atrium and stair between levels allows for higher ceilings adjacent to corridor. Suitable for student gathering spaces and typical acedemic uses.	B
Physics Chamberlin Hall 4th Floor	6,747 NSF 30'-0" FTF	Location difficult to find within larger building. Double height space is suitable for labs or other specialized academic spaces.	B
Social Science 8th Floor	2,960 NSF 10'-6" FTF	Location difficult to find within larger building. Large flexible spaces in good condition. Suitable for typical acedemic uses.	B
Social Work 1st- 2nd Floor	4,121 NSF 12'-0" FTF	Space is flexible given the age of the building. Suitable for typical academic uses.	C
Wendt 1st Floor	15,022 NSF 13'-4" FTF	Location within larger building is easy to find. Large flexible space recently renovated. Suitable for typical academic uses.	B

PROFESSIONAL LIBRARIES:

The professional libraries are embedded within building serving the overall needs of the professional schools. These libraries are not included under the GLS administrative umbrella, but serve an important function in the provision of library services across campus.   For the purposes of this study, the currently allocated space serves the functions well. Any expansion or relinquishment of space will be determined by the professional schools and is outside the scope of this study.

These libraries include:

MERIT Teacher Education 3rd- 4th Floor	21,096 NSF 12'-6" FTF	Location difficult to find within larger building.Large flexible spaces in good condition.Internal location limits natural light.Suitable for typical academic uses.	B
Law 1st – 5nd Floor	60,627 NSF 9'-4" @ 1st 8'-0" @ 2-4E 11'-0" @ 2W 13'-1" @ 3W 24'+ @ 5th	Entry at top level difficult to find and confuses emergency egress. Many spaces were designed for bookstacks; they have low ceilings and lack access to natural light, presenting challenges to repurposing the space.	D
Health Sciences HS Learning Center 2nd-3rd Floor	43,074 GSF10'-6" FTF	Location within larger building is easy to find.Large flexible space in prime location with ample access to natural light.	B

Table 2.2-4: Detailed Summary of Condition Assessment and Functional Ratings

LIBRARY	A	B	C	D	E	F
	ENVELOPE CONDITION	SYSTEMS AVERAGE	INTERIORS AVERAGE	CONDITION INDEX	FUNCTION AVERAGE	QUALITY INDEX
Memorial	2.0	3.0	3.0		D	
	5-15%	15-30%	15-30%	10.4- 23.1	20-50%	30.4 − 73.1
Steenbock	2.5	4.0	3.0		B	
	10-20%	30-45%	15-30%	16.3- 29.0	5-15%	21.3 − 44.0
College		3.5	3.0		B	
	0	25-35%	15-30%	10.5- 17.4	5-15%	15.5 − 32.4
Art		3.0	2.0		B	
	0	15-30%	5-15%	5.1- 11.7	5-15%	10.1 − 26.7
Astronomy		1.0	1.0		A	
	0	0-5%	0-5%	0.1- 2.7	0-5%	0.1 − 7.7
CCBC		1.0	1.0		A	
	0	0-5%	0-5%	0.1- 2.7	0-5%	0.1 − 7.7
Chemistry		1.0	1.0		A	
	0	0-5%	0-5%	0.1- 2.7	0-5%	0.1 − 7.7
Geography		3.0	4.5		C	
	0	15-30%	40-50%	15.6 − 22.2	15-25%	30.6 − 47.2
Geology		2.5	2.0		B	
	0	10-20%	5-15%	3.9 − 9.3	5-15%	8.9 − 24.3
Math		3.0	2.5		B	
	0	15-30%	10-20%	6.6 − 13.2	5-15%	11.6 − 28.2
Physics		3.0	3.0		B	
	0	15-30%	15-30%	8.1 − 16.2	5-15%	13.1 − 31.2
Social Science		3.0	3.0		B	
	0	15-30%	15-30%	8.1 − 16.2	5-15%	13.1 − 31.2
Social Work		3.0	3.0		C	
	0	15-30%	15-30%	8.1 − 16.2	15-25%	23.1 − 41.2
Business		1.0	1.0		A	
	0	0-5%	0-5%	0.1- 2.7	0-5%	0.1 − 7.7
Wendt		1.0	1.0		B	
	0	0-5%	0-5%	0.1- 2.7	5-15%	5.1 − 17.7
MERIT		2.5	2.5		B	
	0	10-20%	10-20%	5.4 − 10.8	5-15%	10.4 − 25.8
Law		2.5	2.5		D	
	0	10-20%	10-20%	5.4 − 10.8	25-50%	30.4 − 60.8
Health Sciences		2.0	1.5		B	
	0		5-10%	2.7 − 6.6	5-15%	7.7 − 21.6

UW-Madison | Campus Libraries Facilities Master Plan

Synthesis and Options Comparison

Section Includes

6.1 Compilation of Findings | Gap Analysis

UW- Madison Campus Libraries occupies more space on campus currently than is required to provide improved services in support of research, teaching and learning. The overall campus space need was defined in Chapter 4 and can be summarized as follows:

- While the total number of **seats** provided are well used, it is recommended that the seating environments are improved, adapted to current needs to serve as either public, partner, collaborative or quiet study seats as determined during a predesign programming phase for each individual library location. Seats are the most important component of the program as they are the measure of patrons, in the library, taking advantage of the unique services available only at the library.

- Physical **collection** use is low and trending down (**Graph 6.1-A**) as more library resources are available in digital format. Keeping 10% to 25% of the collection on campus will reduce the overall footprint of the library system while maintaining excellent access to physical collections and supported by a service delivery model for easy access to items in remote storage. Collections retained on campus will be housed in browseable shelving environments.

- **Staff** spaces are currently oversized and inefficient. Using industry standards and knowledge of the physical and digital work performed by library staff, the overall space needed is reduced.

Graph 6.1-A: Circulation Transactions per Year (2006-2017)
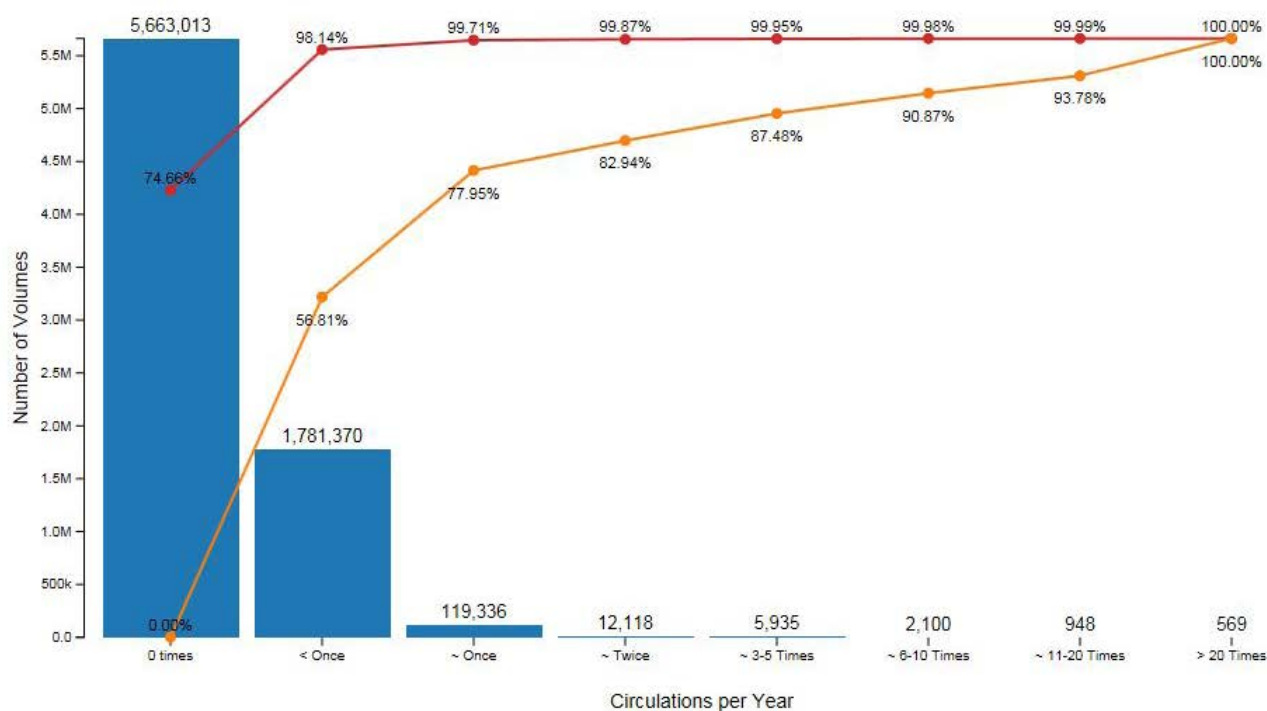
The next step in the process was to consider the distribution of the overall category level space program across campus, determining the location and size of each library in the system. The planning scenarios described here were developed balancing the planning goals described below with the demographic analysis of the overall campus included in Chapter 5.

6.2 Planning Goals and Planning Strategy Description
The planning goals and strategy for the future UW-Madison libraries developed from project drivers, utilization data, and extensive conversations with library leadership, staff, and patrons.

After much discussion, it was determined that the future physical spaces of the libraries should address the following goals:
1. Strengthen and showcase research services.
2. Provide appropriate spaces for how teaching and learning is being conducted today and into the future
3. Increase access to Special Collections and Archives.
4. Serve as the campus facilitator for collaborative work across disciplines.
5. Accommodate existing and future campus planning efforts, including a planned campus expansion to the south.
6. Provide appropriate spaces for how library staff are working today.
7. Address the shift from physical to digital collections as well as an overall shift towards digital and remote access.

The UW-Madison Campus Libraries have been in the process of moving from a highly decentralized to a more consolidated library system for several years. The strategy and recommendations laid forth in the following sections call for a shift from the departmental model to **hubs of interdisciplinary and complementary services.** These hubs are to be located in existing buildings, where possible.

The hub model addresses the planning goals by:
1. Consolidating services into each of the three hubs, enabling staff to focus on delivering more robust services that cut across disciplines.
2. Providing shared multipurpose and flexible spaces across disciplines in order to offer the kinds of individual, collaborative, and instructional spaces required by current and future pedagogies.
3. Creating a special collections hub to better showcase the premier collections and archives for which UW-Madison is known and to share support services as well as climate-controlled spaces .
4. Housing multiple academic collections and services to foster interdisciplinary opportunities and offering large public spaces in which to host multi-disciplinary forums .
5. Situating a new library hub in south campus to address the current absence of a library presence and meet the future research, teaching and learning needs of an expanded campus to the south .
6. Locating library staff closer together to foster teamwork, providing more collaborative and project spaces, and accommodating mobile staff with touchdown spaces to address current and future library staff work space needs.
7. Increasing collections storage facilities to house underutilized and duplicative print materials .

6.3 Planning Scenarios

Three scenarios were developed for distributing library space across campus. The initial scenarios were tested and modified until each was determined to meet the vision for the project and would be an acceptable final organization of the campus libraries. All scenarios reduce the overall footprint of campus libraries while maintaining equivalent user spaces and high quality services.

To achieve this equity between scenarios, the following prerequisites for all scenarios were determined:

1. **Remote storage** will be increased to allow for the relocation of 62% of the collection currently stored on campus to an offsite, efficient storage facility designed to preserve the physical collection for ongoing use.

2. **Memorial Library** will be substantially reconstructed. With collections removed from this location, the overall size of the library can be reduced by more than 25%. By demolishing portions of the library containing substandard spaces designed for book storage, the reconstructed library will be a flexible, open building designed to support spaces for people and technology. See Chapter 7 for more details on the plans for Memorial Library.

3. **Law and Health Science Learning Center** would maintain their status as campus libraries while supporting the needs of their respective professional school communities. It is recommended that they maintain the current level of user seating to contribute to the campus-wide inventory, adjusting collections as needed to meet their individual needs.

The three final scenarios are summarized below:

Scenario 1: Designed to make the best use of existing facilities, with the two major projects described above resulting in a system of ten campus libraries. Memorial, College and Steenbock would be remodeled as Hub libraries, the south campus would continue to be served by Wendt, Gelology, Merit and Business, the Physics library location would be renovated to include Math and Astronomy, and Law and Ebling would continue to support their respective professional schools.
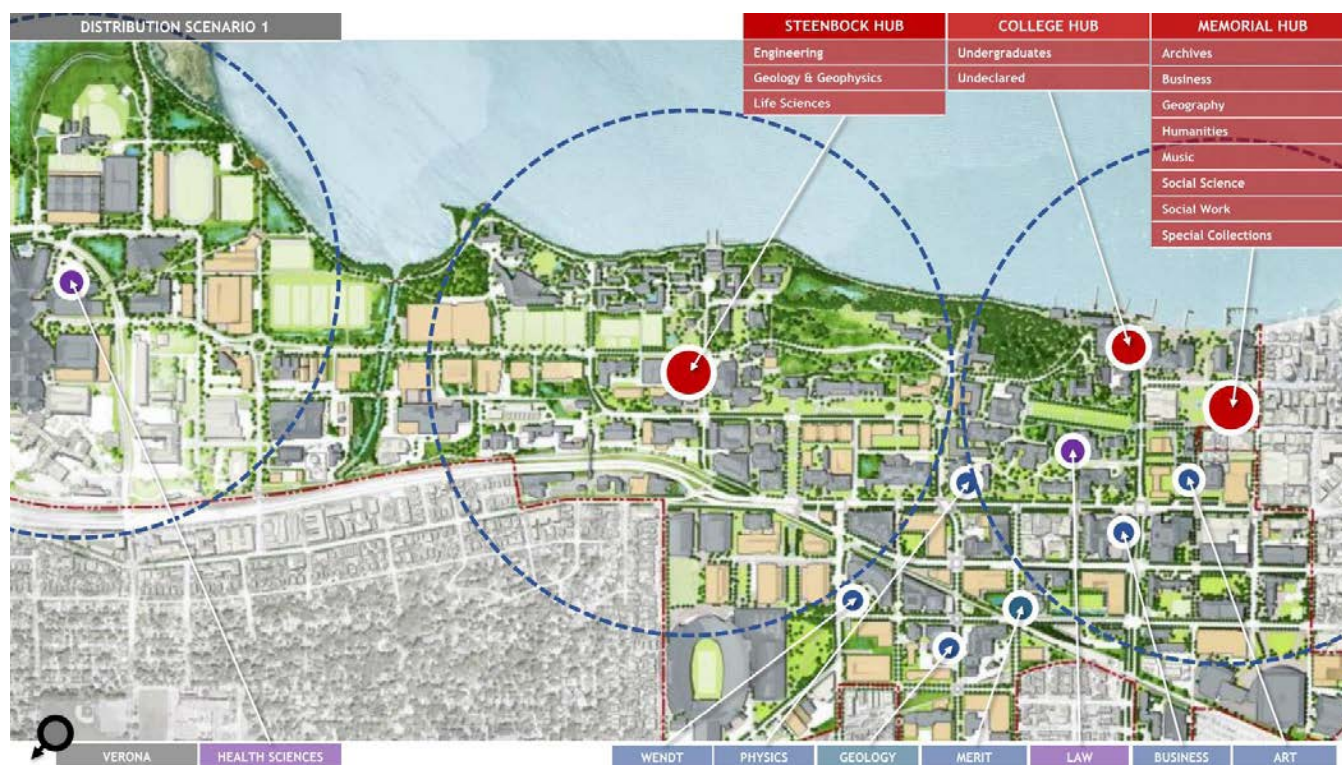
Scenario 2: This scenario takes an additional step towards a hub library model by combining the four campus libraries south of University Avenue into a single south hub library for an overall system of <u>six campus libraries</u>. This transformation includes the two major projects noted above plus a new south library built as part of a new or renovated facility, likely shared with other campus departments.


Scenario 3: Further reducing the number of library locations, this scenario closes College Library and distributes the foundational services provided to undergraduates to each of the hub libraries. This results in a <u>five campus library system</u>, with three major hubs at the east, south and west quadrants. This scenario best achieves a geographic distribution that most closely follows the campus distribution of students.

While all scenarios meet the goals of the system wide space needs and overall reduction target, the transition from a departmental model to a hub model is achieved to a lesser or greater extent in each. While the reconstructed Memorial Library, Ebling and Law remain constant in each option, the other libraries are variable as shown in the chart below (**Chart 6.3-A**)of assignable square feet per library location.

Chart 6.3-A: Space Allocation by Scenario
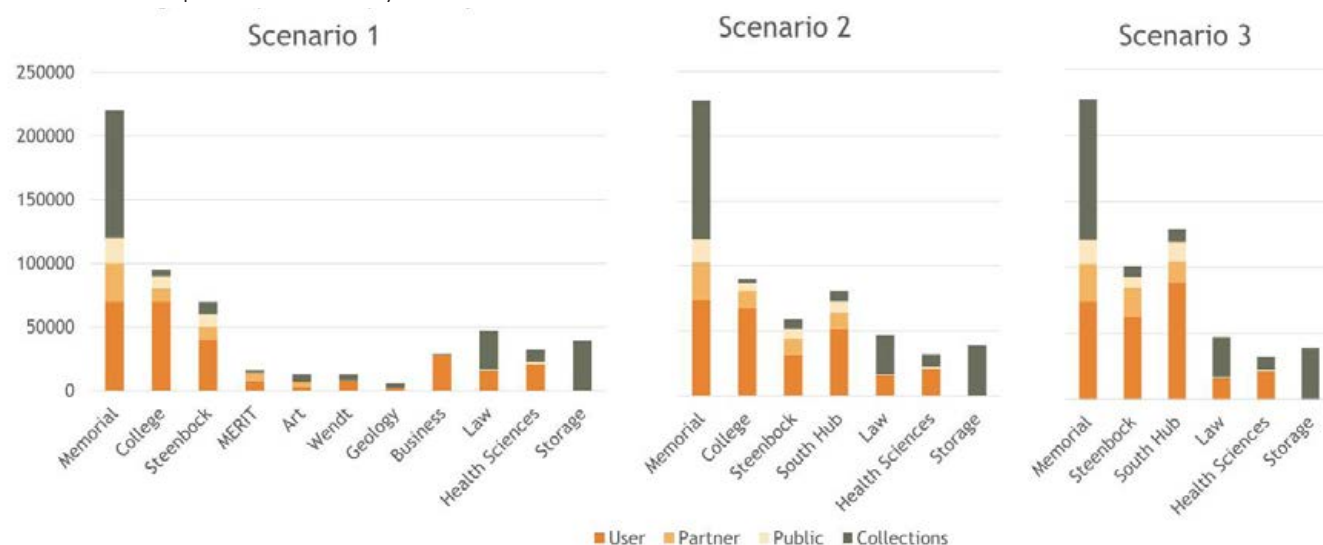
6.4 Evaluation Criteria

The following project evaluation criteria was developed by the project team to address the project drivers while meeting the vision for the future of the libraries and the guiding principles for the space.

1. **Empowering Research**
- Provide inspirational spaces with amenities to serve as incubators of new forms of research
- Increase the amount of large and flexible spaces to support interdisciplinary scholarship
- Provide consultation spaces that are proximal to research collections
- Increase accessibility of research materials
- Preserve browsability of collections for academic departments that depend on physical materials being maintained in the library

2. **Cultivate Teaching and Learning**
- Increase amount of collaborative and social learning spaces
- Increase number of spaces that deliver and support active learning and interdisciplinary experiences
- Provide a diversity of space types and amenities to support formal and informal learning; individual and group work; and quiet and collaborative study

3. **Enhance Interaction with Archival and Special Collections**
- Increase visibility and awareness of archival and special collections
- Create appropriate climate-controlled storage spaces for sensitive collection materials

4. **Transforming Services**
- Enabling the library's new service model
- Densify with fewer spaces and service points to shift focus towards providing more interactions and away from maintaining space
- Strategically locate service points for effectiveness in operations
- Increase visibility and accessibility of services

5. Leveraging Partnerships
- Increase amount of flexible space for partner services
- Situate partner services in accessible locations and patrons' points of need

6. Improve Upon Staff and Patron Experience
- Provide a range of seating and work-top types to enable different types of patron work
- Provide more technology-enabled spaces to support the increase in mobile work
- Create more communal spaces in which to connect people to one another
- Create a welcoming and inclusive environment that encourages entry and usage of the Libraries
- Provide more collaborative and flexible work space for library staff
- Locate library staff work space more closely to one another to encourage connection

7. Alignment with overall University plans and Campus Libraries' plans
- Aligns with 2015 Campus Master Plan
- Aligns with campus libraries' strategic framework
- Aligns with campus libraries' consolidation plan goals
- Aligns with campus libraries' service delivery model work

6.5 Evaluation of Options

The GLS executive group evaluated the three scenarios by scoring each according to the evaluation criteria above. By incrementally weighing each scenario against attributes of each project driver, individual scores were aggregated into an overall understanding of how each scenario would perform. **Chart 6.5-A** illustrates how well the existing library system and each scenario was rated as a percentage of possible points for each driver.

Chart 6.5-A: Performance evaluation of scenarios as percentage of possible points per driver.
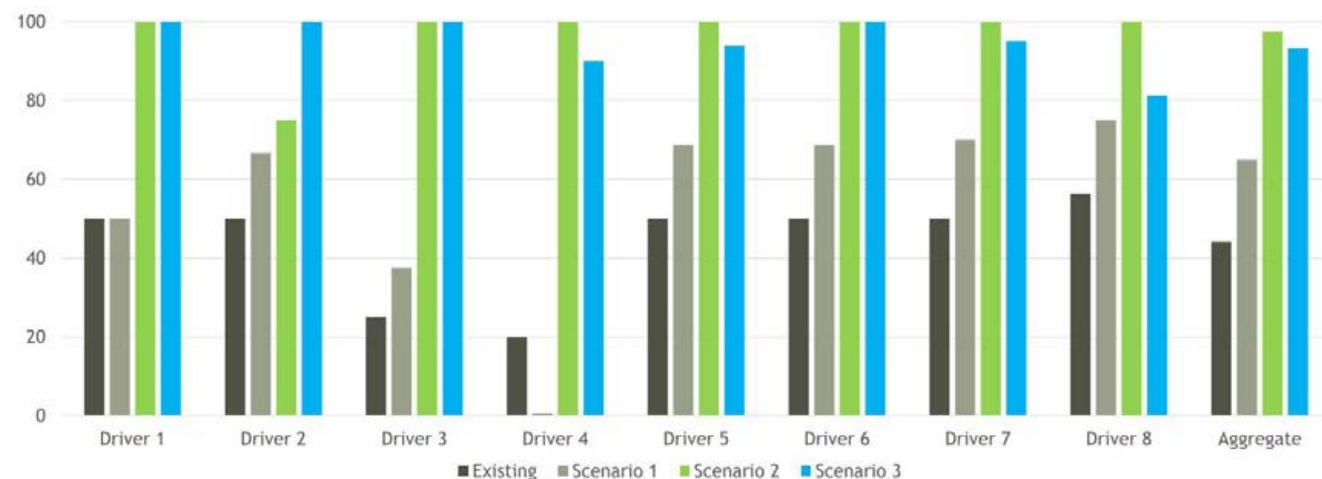
Key Takeaways:

The existing library system is not meeting its potential in serving the campus community. The physical space hampers the ability of staff to utilize their expertise to significantly contribute to the academic mission of the university.

Scenario 1 performed least favorably as it only partially implemented the hub library system. The resulting ten library system causes more space to be used for transactional and redundant services and more staff time and resources to be devoted to managing space. In addition, south campus remains underserved, without an identifiable hub library south of University.

Scenario 2 performed the best out of all the options evaluated. While library space continues to cluster around Library Mall, augmented by the Historical Society, the South and West hub libraries bring robust and unique services to currently underserved areas. Foundational library services for undergraduates continue to be provided in a dedicated hub at College Library, allowing efficiency of focus for the staff at this location.

Scenario 3 was determined to perform slightly lower than scenario 2. The distribution of foundational services from a single location (currently College Library) to all three hubs required redundant spaces and staff at each. This distributed approach was recognized to contribute to opportunities for interdisciplinary learning, but detracted from the libraries ability to provide diverse and innovative services with the space available.

College Library was seen as the key differentiator between scenarios. College Library is high quality, flexible and adaptable space currently housing the most innovative collaborative spaces on campus at a prime location beloved by current students and alumni both. To relocate these services to another location would not improve the overall system and would simply add to the overall cost of the masterplan as adequate existing space is simply replaced in kind with new.

Recommendation:

The master plan as developed in subsequent chapters will focus on **Scenario 2** as the best campus distribution plan to meet the vision and performance goals of the project.

This page is intentionally left blank.

Recommendations

Section Includes:
7.1 Master Plan Program Goals
7.2 Master Plan Guiding Principles
7.3 Master Plan Projects

7.1 Mater Plan Program Goals
The master plan outlines an overall space need for individual libraries within the campus library system at the category level. Scenario 2 is recommended as the appropriate distribution of library space across campus, resulting in a six-library system. As individual libraries are considered for renovation, expansion or construction, a robust pre-design process would be undertaken to identify the individual spaces to be provided at each library. The following framework should be used by future designers to develop these individual building space programs.

Patron Experience
Engagements with library staff and patrons (see Section 3) provided an understanding of the points at which patrons engage with the library (e.g., staying up to date in their field for faculty) and where there are opportunities to leverage the library as a partner in research, teaching and learning experiences on campus. The spaces and services identified below would be appropriate to consider during program development.

Universal Services at Hub Libraries
The goal of the hub concept is to provide foundation support consistently across library locations while offering additional opportunities to explore subject-specific tools, resources, and services unique to each hub. Each hub will offer a suite of similar spaces so that patrons- regardless of discipline- feel welcomed and supported. These spaces include:

- Community spaces that combine cafes, multipurpose event space, and exhibitions to welcome and orient the public on the library's many offerings. These spaces also provide necessary amenities for patrons throughout their day in the library.

- Graduate student commons at each hub will take on unique identities to better serve the graduate population: whereas the Humanities, Social Science, and Art (HSSA) and STEM Hubs may cater towards the needs of their disciplines, the Teaching & Learning Hub may offer graduate students spaces to support their teaching assistant positions and help them prepare to become professors.

- Immersion labs- or spaces that utilize a variety of new technologies to inspire and promote exploration of topics and tools- will also take on unique identities throughout the hub system. These spaces can be more discipline specific or focus on helping patrons learn the technologies to experiment on their own.

- Student success commons in each hub library will enable library staff and partners to serve all patrons consistently across library locations. These shared partner spaces will focus on offering foundational student success services such as tutoring, advising, and wellness support in environments designed for study and meeting. Through these commons, the library can articulate its role in student success and help expose students to additional services, spaces, and support within the library.

Foundational Hub Library with focus on Undergraduate Students
Located at College Library within Helen C. White Hall, this hub would focus on supporting undeclared and undergraduate students. It will continue to provide innovative spaces and services to support the unique needs of this population, focusing on the whole student and reaching beyond academic achievement to long term development. Physical collections are limited and primarily recreational.

Memorial Hub Library with Humanities, Social Science, and Art (HSSA) focus

Located in the existing Memorial Library building situated in central campus, this hub would feature such unique anchor spaces as a special collections exhibition & interaction space, digital scholarship/media lab, and a research commons. The HSSA hub library will draw in arts, humanities, and social science enthusiasts across campus with offerings such as:

- A sample of the extensive UW-Madison physical collection on arts, humanities, and social science.

- Modern, climate-controlled exhibition and interaction space for the entire campus' special collections and university archives.

- Research facilities catered towards humanities and social science research, taking the shape of a digital scholarship/media lab and a research commons.

Steenbock Hub Library with STEM focus

Located in the existing Steenbock Library building found in the west campus, this hub would feature such unique anchor spaces as a digital scholarship/media lab, a maker space, and a research commons. The STEM library will not only unite the science and engineering discipline on campus but will also offer a home base for the students residing and working nearby. The STEM library will offer:

- Physical collections related to STEM disciplines will remain on site so that they are immediately available to the faculty and students who need them the most.

- Research facilities catered towards STEM research, taking the shape of a digital scholarship/media lab and a research commons.

- Maker space open and accessible to all patrons, regardless of discipline. This maker space will introduce patrons to the foundational tools and methods that will empower patrons to dive deeper into more specialized maker spaces offered through various departments.

South Hub Library with focus on Teaching & Learning Innovation

Located in a building to be determined in the south campus, this hub would feature such unique spaces as an innovative teaching & learning space. The Teaching & Learning Hub will represent the library system on the expanded south campus neighborhood. It will serve the growing student population of the area and offer exciting new opportunities for the univerisity community to cultivate new methods of teaching and learning:

- Physical collections from MERIT, Business and Social Work will remain on site and available to patrons for teaching and learning purposes

- Innovative teaching & learning spaces will bring together library expertise and outside partners to offer a robust set of services and support to the university community. Here, teachers and learners alike will be able to experiment with new tools, technology, and techniques to complement their academic activities.

7.2 Master Plan Guiding Principles

While the discussion above identified individual program goals for the hub libraries, the following guiding principles apply to all four of the hub libraries to provide a unified campus library system in alignment with the campus master plan.

Each hub library shall follow these design guidelines:

WELCOMING TO ALL

Each hub library will have a primary entrance at ground level serving only the library. A unique entrance will allow the libraries to convey their commitment to serve the whole campus and not be limited to serving a single department. Ideally, large windows would allow those passing the library to see the activities and services offered, whether public displays of academic research or collaborative programming, welcoming all campus community members into the library to take advantage of their unique services. The design of the spaces will emphasize accessibility, inclusion and respect for all.

FUTURE FLEXIBILITY

All spaces will be designed with future flexibility in mind. Structural systems should provide open floor plates that can support a variety of uses both now and in the future without immovable obstacles. Services such as elevators, stairs and shafts shall be clustered and located so as not to interfere with future possible configurations. Structural heights should allow for a minimum of 12 feet clear from the finished ceiling to the floor, with adequate accessible mechanical spaces provided either above the ceiling or below a raised floor system.

ADAPTABLE TECHNOLOGY

Each hub will be built to the highest technology standards of the day and capable to support future growth. Abundant and ubiquitous power sources are required to support the continued increase in the use of personal technologies.

RESOURCE MANAGEMENT

All renovation and construction work shall be designed to minimize energy consumption and meet the highest sustainability standards possible within the project parameters. Designers shall work with all stakeholders to determine the most appropriate systems and criteria to apply to each individual project.

7.3 Master Plan Projects

The following list of capital projects would be required to fully implement the master plan, scenario 2. The cost of each project is provided in today's dollars (2017). Each project below would require support from library staff to coordinate the shifts in collections, both temporary and permanent. These are outlined in the implementation plan.

Project 1: Remodel Physics Library
Renovate 6,500 GSF | Estimated Construction Cost $975,000

This project is a temporary solution to facilitate ongoing consolidation efforts. Interior finishes are replaced and user spaces are upgraded to allow for increased services to the science disciplines located within Stirling, Van Vleck, and Chamberlain Halls.

Project 2: Remodel College Library
Renovate 33,000 GSF of 102,000 GSF | Estimated Construction Cost $5,842,000

College library has undergone multiple upgrade projects over the last few years, the most recent occurring during the course of this study. While collections spaces have made way for user spaces, the need for additional restroom capacity has become abundantly clear.

This project includes completely rebuilding the restrooms at each level to provide the appropriate number of fixtures for current users. Interior finishes and lighting are replaced in the third of the library untouched by recent projects. A new fire sprinkler system is installed throughout the library.

Project 3: VERONA 2 PRESERVATION STORAGE
Build 31,000 GSF | Estimated Construction Cost $8,021,000

Construct a new 26,300 square foot remote storage facility as an addition to the existing 10,000 sf existing storage facility in Verona. The building would be a single story building with a high capacity structure to support high density storage. The HVAC system would be preservation grade with the ability to maintain proper relative humidity and temperatures with minimal fluctuation. Collections located in this new storage facility will be some of the most valuable and important items from special collections and all systems shall be designed to ensure their long term preservation. All lighting shall be LED and fire suppression systems will be clean agent systems to meet the preservation grade requirements.

Project 4: MEMORIAL RECONSTRUCTION
Memorial is the flagship library within the system and the goal of this project is to transform it from a warehouse of books into a modern library, supporting the spaces and services outlined earlier in this report. The project consists of a complete transformation in two distinct phases that can occur in sequence or with a separation of years in between. This project depends on the completion of the new preservation storage facility to house collections currently at Memorial Library.

Memorial Library Phase 1
Renovate 97,000 GSF | Estimated Construction Cost $19,618,000

Relocating the front entrance from State Street to Library Mall will achieve several important goals. First, reestablishing the connection of Memorial Library to the symbolic heart of the historic campus will reinforce its identity as a vital institution within the university. See **Figure 7.3-A** below for Library Mall plan.

Figure 7.3-A: Library Mall Design Plan
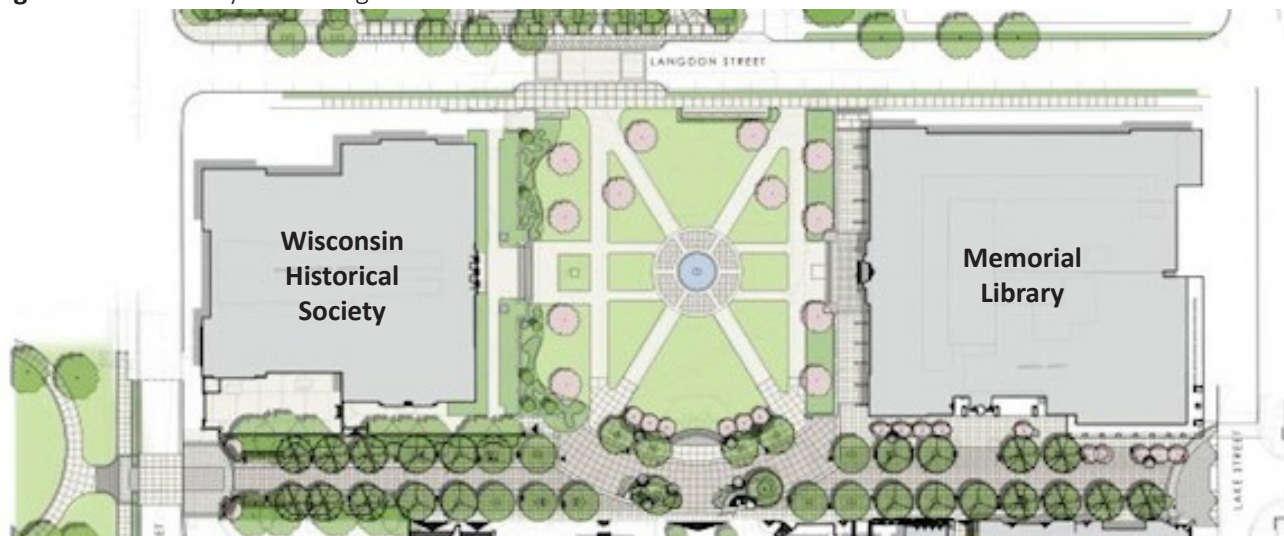
The new entrance would remove stairs both outside and inside the building, allowing this entrance to become accessible and welcoming (**Figure 7.3-B**). Second, the interior circulation of the building will be dramatically simplified, allowing patrons to access spaces intuitively, starting with high quality public spaces before moving through to the more contemplative and smaller scaled spaces.

In addition to relocating the entry, phase 1 consists of remodeling the 1953 portions of Memorial Library at the 1st, 2nd and 4th floors. The large reading rooms would be transformed to accommodate a variety of user spaces, adapting the spaces to support innovative, collaborative, and unique services.

Figure 7.3-B: Section of Memorial Library
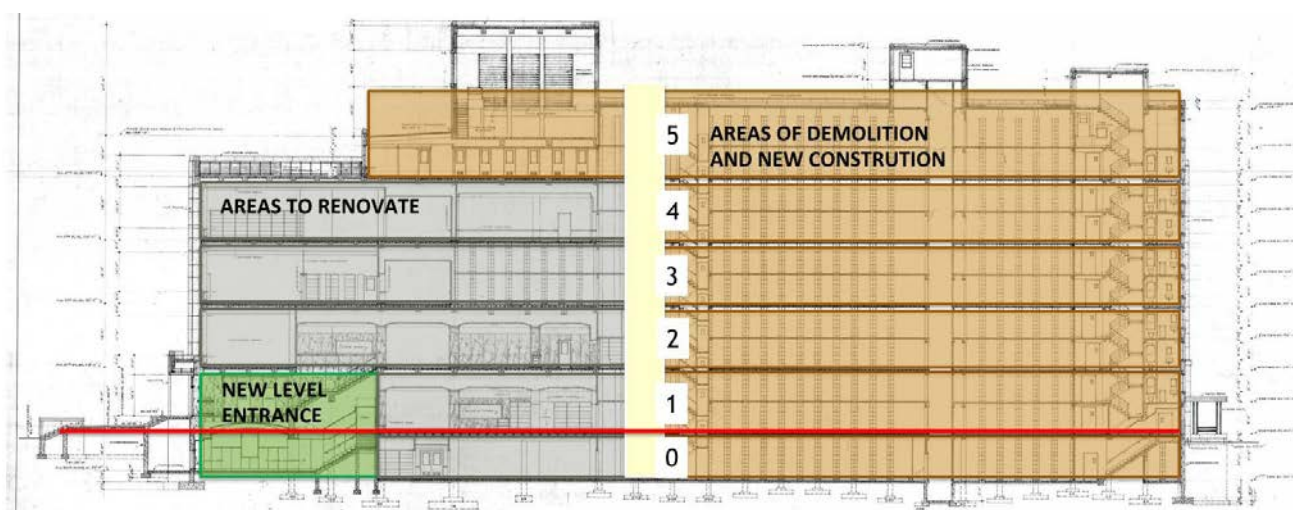
Memorial Library Phase 2
Renovate 65,000 GSF | Estimated Construction Cost $13,146,000
Demolish 330,000 GSF | Build 142,000 GSF | Estimated Construction Cost $38,928,000

This phase begins with the demolition of existing library space, most of it purpose built for book storage with low ceilings and a dense grid of columns. The demolished spaces include the 1953 stack block, not built for public access, and the 1970-80's additions at the southeast corner (**Figure 7.3-C**). These buildings are located on a key site, where State Street meets campus, and instead of welcoming public and community patrons, it offers a large, mostly windowless, stone edifice that towers over adjacent buildings.

Figure 7.3-C: Memorial Library Plans
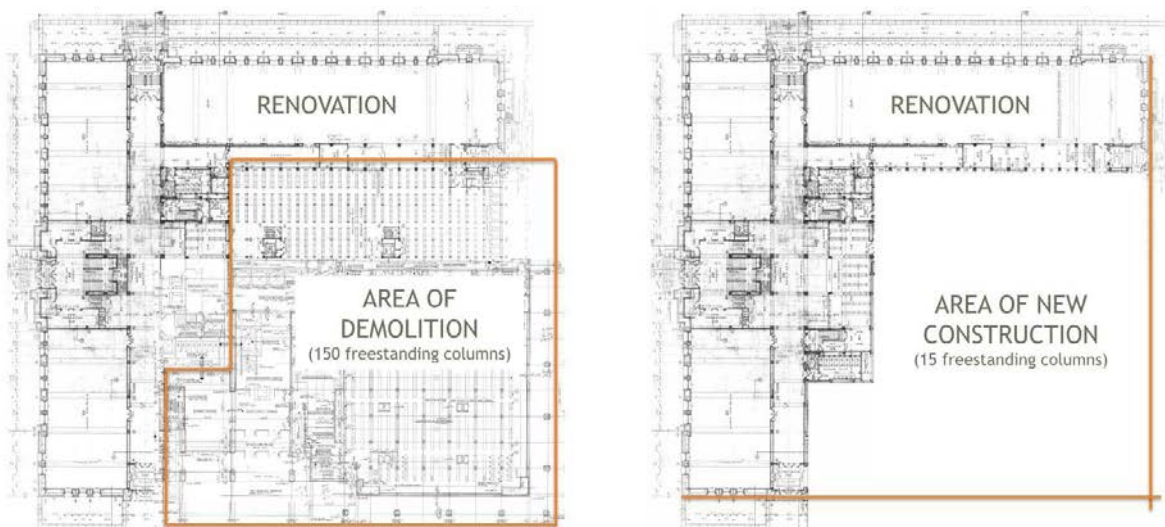
On this critical corner a new library addition, approximately half the floor area of the demolished building, would be built with open flexible spaces aligned with the more generous floors of the original library. It is imagined that the spaces along State Street would be publically accessible, welcoming patrons arriving on campus from State Street into exhibit halls, cafes and community gathering spaces.

At the heart of the library, the circulation core of stairs, elevators and restrooms would provide a single entry point to the secure library spaces above and allow for an intuitive connection to all levels above. This organizational framework will support the library in achieving the goals of the masterplan while maintaining the flexibility to adapt to an unknowable future.

Figure 7.3-D: Memorial Library Renovation Diagrams
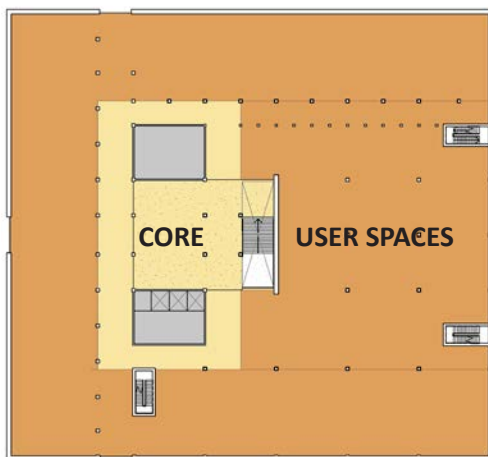
Typical Upper Level Floor Plan

Each floor of the library will have a central circulation core containing elevators, stairs and restrooms. Public spaces opening off this core will include user spaces (individual, group and collaborative), partner spaces and collections. Approximately one third of library space will be browsable collections.
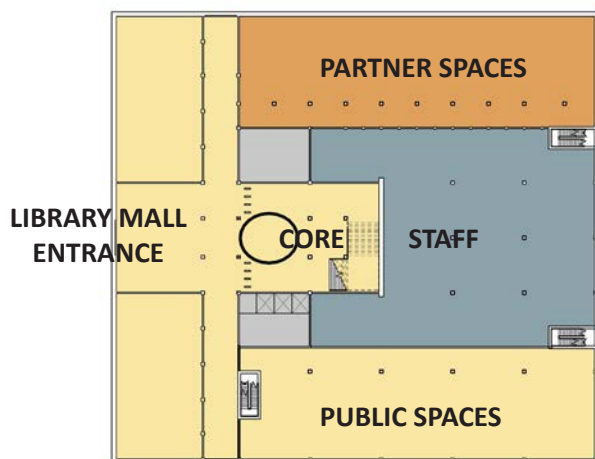
Entry Level Floor Plan

The ground level of the library will house public spaces, welcoming patrons arriving on campus from State Street. A single secure entrance/exit for the library would be centrally located at the elevator core with a grand stair leading up to the second level and down to the lower level. Staff spaces will be located adjacent to the loading dock and circulation functions for an effective workflow.
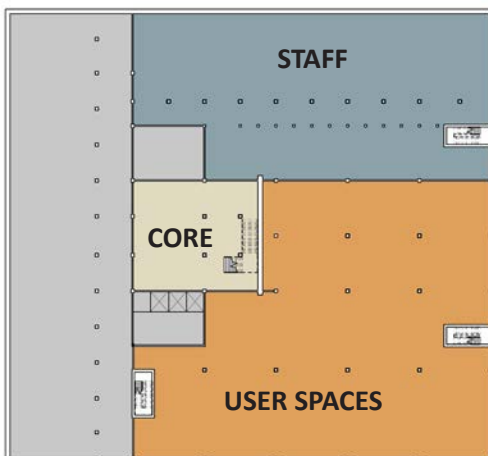
Lower Level Floor Plan

At the Lower Level, the user space could accomodate a variety of uses, from a specialized library such as the Music Library or Art Library to a cluster of browsable collections environments. Necessary mechanical spaces would be housed here as appropriate and additional staff spaces.

Massing diagrams for the reconstructed library were developed to get a sense of overall scale, illustrating a building skeleton with open floor plates aligned with existing and a simple column grid. Future design efforts will consider variations on the box and cladding design.

An overview of Memorial Library is shown below in **Figure 7.3-E**. The entrance on Library Mall is highlighted as an entrance canopy, the level of architectural intervention at this facade will be determined during later design phases. Given both the existing building struture and the proposed program area for Memorial Library, there is an opportunity to implement a green roof system at the 5th floor level, as shown in the illustration below.

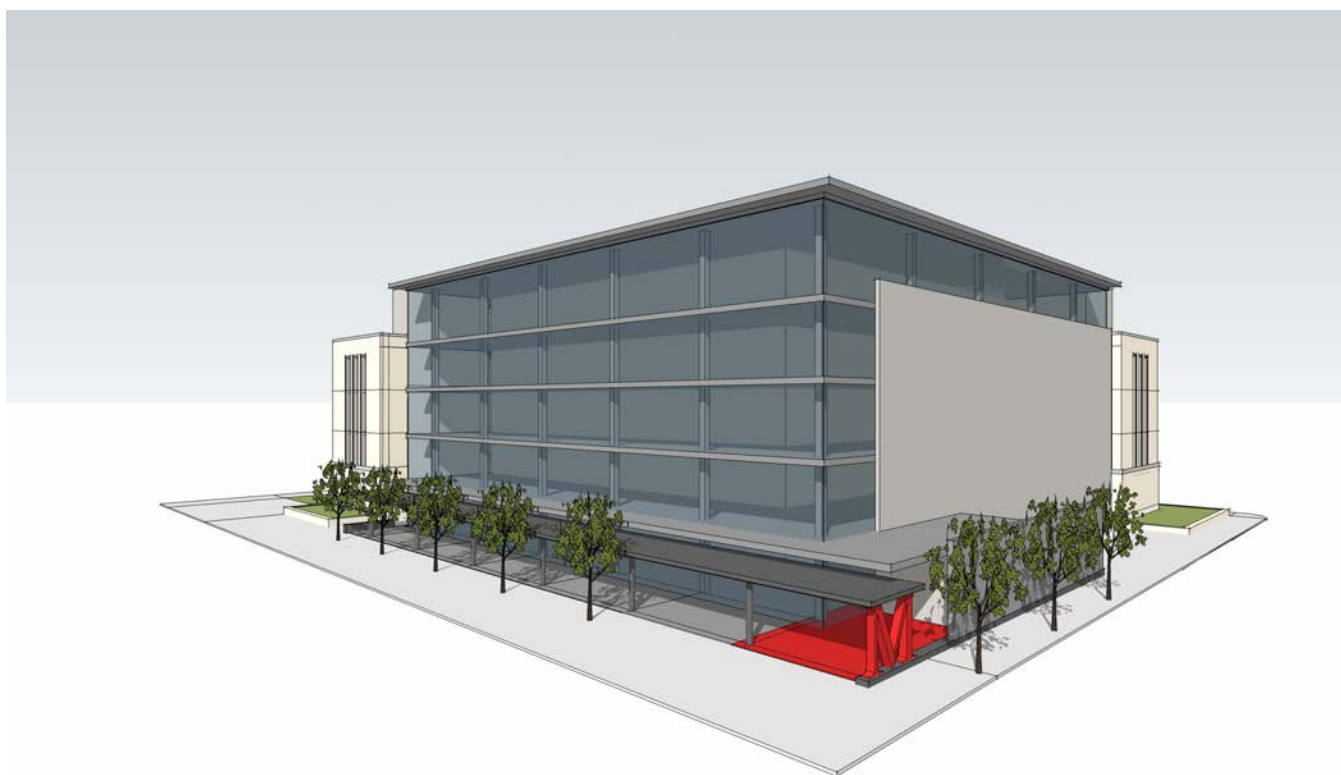**Figure 7.3-E:** Overview of Memorial Library

The images below illustrate the massing of the building at ground level, with primary entrances highlighted in red.

Figure 7.3-F: Southwest View of Memorial Library Reconstruction

Figure 7.3-G: Southeast View of Memorial Library Reconstruction

Project 5: REMODEL STEENBOCK LIBRARY
Renovate 83,000 GSF | Estimated Construction Cost $13,120,000

Steenbock Library was originally built with an adaptable structure of widely spaced columns and tall floor to floor heights. This project would transform the majority of space within the building from collections storage to user spaces, keeping the recently constructed BioCommons area as it exists today. After addressing minor repairs to the building exterior, the interior would receive new finishes, new lighting, new restrooms with adequate fixture capacity, upgraded mechanical systems and a new fire sprinkler system.

Project 6: NEW SOUTH HUB LIBRARY
Build 113,000 GSF | Estimated Construction Cost $29,681,000

A new South Hub Library would replace the dispersed libraries south of University Avenue with a single hub library that meets the guiding principles outlined above. While a site would be determined at a later date, it is critical that the library, whether freestanding or part of a mixed use development, have its own identifiable entrance at from the street.

Recommended Implementation Plan

Section includes:

8.1   Introduction

The recommended implementation plan provides a logical sequence of projects that will allow the campus libraries to build out the master plan in phases. Project sequencing takes into consideration (1) shifts in physical collections from one library location to another, taking advantage of available storage across the system, (2) enabling projects that allow other projects to proceed, (3) the priorities of campus libraries leadership and (4) the anticipated pace of funding.

While the overall master plan is focused on improving services, it is also enabling the ongoing consolidation efforts of the library, reducing the amount of space on campus by shifting unused collections to high density closed and off-site storage. In addition to the 5 major capital projects identified in Chapter 7, a series of incremental steps and temporary projects are also required and are included in the implementation plan for sequencing but the costs are not part of the master plan budget estimate. Below is the complete list of projects both major capital projects and incremental projects, grouped as dependents that cannot occur until the major project is complete.

The complete list of projects with construction costs in today's dollars (2017):

0. Ongoing consolidation projects [no capital costs included]
a.   Close Middleton Shelving Facility, shift collections to other storage facilities.
b.   Close Geography Library, shift collections to Memorial & storage (up to 90%)
c.   Close Social Science, shift collections to Memorial & storage (up to 25%)
d.   Close Social Work, shift collections to MERIT & storage (up to 25%)

1. Remodel Physics Library as temporary location to enable consolidation [$975,000]
a.   Close Astronomy Library, shift collections to Physics & storage (up to 90%)
b.   Close Math Library, shift collections to Physics & storage (up to 25%)
c.   Shift up to 90% of Physics collection to Storage

2. Remodel College Library as Foundational Hub [$5,842,000]

3. New Off-Site Preservation Storage Facility [$8,021,000]

4. Reconstruct Memorial Library as East Hub [$72,692,000]
a.   Close Art Library, shift collections to Memorial Library & storage (up to 25%)
b.   Relocate University Archives to Memorial Library & storage (up to 95%)

5. Remodel Steenbock Library as West Hub [$13,120,000]
a.   Close Physics Library, shift remaining collections to Steenbock.

6. New South Hub Library [$29,681,000]
a.   Close Wendt Library, shift collections to South Hub & storage (up to 90%)
b.   Close Business Library, shift collections to South Hub & storage (up to 90%)
c.   Close MERIT Library, shift collections to South Hub & storage (up to 50%)
d.   Close Geology Library, shift collections to South Hub & storage (up to 60%)

8.2 Project Priority Ranking

Project priority is established to facilitate the implementation of the vision, begun with consolidation planning, to reduce the physical footprint of the libraries on campus. In addition to benefits for the library, this shift allows unnecessary spaces to return to the overall campus inventory, ideally filling the needs of the schools and departments in which they are located. Priorities below are focused on implementing the vision for the campus libraries, however the needs of another campus department for a current library space planned for closure may shift the priority of a particular project.

The library is already progressing on consolidation plans and planning further remodeling projects to address the restroom inadequacies at College Library. These projects are of the highest priority to address immediate needs. The renovation of College Library could continue to occur as a series of smaller projects as partners are identified, similar to the renovations that occurred to accommodate the SOAR project during the course of this study.

The highest priority for the masterplan is the reconstruction of Memorial Library. Ongoing operational expenses for managing this space is a continuous drain on library resources. By demolishing the lowest quality spaces at Memorial and replacing with the appropriate amount of high quality spaces, this project will have the largest impact in realizing the overall goals of the master plan.

However, this project cannot commence until the off site preservation storage facility is built to house the physical collections in efficient high density shelving with the necessary environmental systems to preserve this valuable resource.

The third priority for the master plan is the construction of the south hub library, replacing the multiple libraries with a single hub, allowing a shift from managing space embedded within departments to providing robust services welcoming to the entire community.

Finally, the transformation of Steenbock Library will bring hub services to the fourth and final location.

This study does not include capital projects for either Ebling Health Learning Center or the Law Library, both of which have projects underway that support the goals of the master plan. It is understood that while part of the campus library system, both their management and funding are under the jurisdiction of their respective departments.

The table below lists the projects in order of priority, including the facility quality rating (higher numbers indicate more work is required) and the construction cost of each project, in today's dollars:

RANK	PROJECT	QUALITY INDEX RATING	CONSTRUCTION COST
1	Physics Library Interior Remodel	13.1- 31.2	$ 975,000
1	College Library Interior Remodel	15.5- 32.4	$ 5,842,000
2	Off-site Storage Facility	n/a	$ 8,021,000
2	Memorial Reconstruction	30.4- 73.1	$ 71,692,000
3	South Library Hub	n/a	$ 29,681,000
4	Steenbock Library Remodel	21.3- 44.0	$ 13,120,000

8.3   Project Phasing & Total Project Costs

The phasing plan shown in **Chart 8.3-A** follows the project priority ranking above with one exception. It was the determination of the project team that the expense of a new south library hub would require additional time for funding and was shifted from mid-term to long-term, moving the Steenbock remodel project forward as a more feasible approach to implementation.

Chart 8.3-A: Phasing Plan
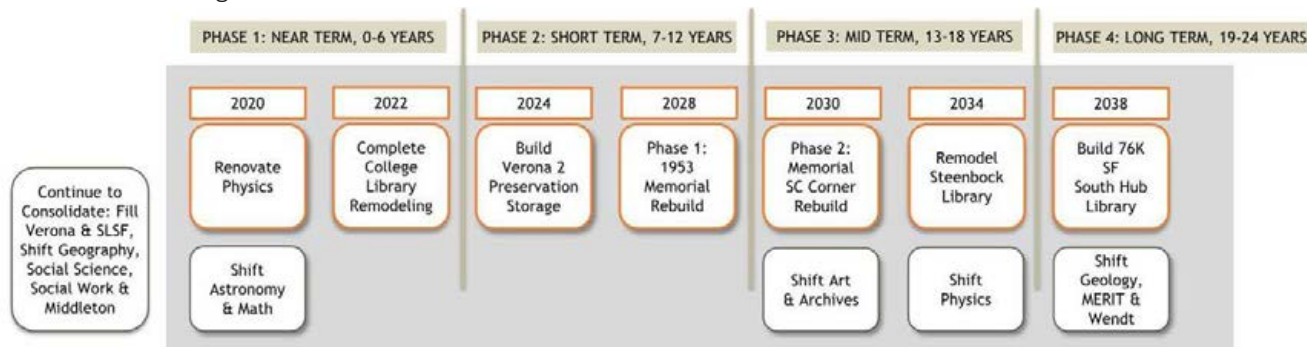
Construction Costs are only part of the overall project cost. In addition to the construction, each project will require furniture, equipment, technology and other costs to bring it to fruition. These costs have been added in **Chart 8.3-B** below to illustrate the total project costs.

Chart 8.3-B: Total Estimated Project Costs in today's dollars (2017)

Project	Gross SF	Cost per SF	Construction Cost	FFE ($27/sf)	Technology ($10/sf)	Other Costs (25-27%)	Total Project Cost
Physics	6,500	$ 150	975,000	175,500	65,000	24,000	1,459,000
College	33,000	$ 177	5,842,000	891,000	330,000	1,461,000	8,524,000
Off-Site Storage	31,000	$ 259	8,021,000	837,000	0	2,166,000	11,024,000
Memorial	212,800	$202-259	71,692,000	8,208,000	3,040,000	19,051,000	101,991,000
Steenbock	83,000	$ 158	13,120,000	2,241,000	830,000	3,280,000	19,471,000
South Library	79,200	$ 262	29,680,000	3,055,000	1,131,500	8,014,000	41,881,000
TOTAL ESTIMATE			**$129,331,000**				**$184,350,000**

It is also recognized that escalation will play a significant role as projects are implemented over the next 20 years. The chart below lists target dates for the construction of each project and the calculated escalation associated with building in the future.

Chart 8.3-B: Total Estimated Project Costs escalated to anticipated date of construction

Project	Total Project Cost (2017)	Target Date	Escalation Factor	Escalation Cost	Escalated Project Cost
Physics	1,459,000	2020	1.12	175,000	1,634,000
College	8,524,000	2022	1.22	1,875,000	10,399,000
Off-Site Storage	11,024,000	2026	1.42	4,630,000	15,654,000
Memorial	101,991,000	2028	1.54	55,075,000	157,066,000
Steenbock	19,471,000	2032	1.80	15,576,000	35,047,000
South Library	41,881,000	2036	2.11	46,488,000	88,369,000
TOTAL ESTIMATE	**$184,349,000**				**$308,169,000**

VERONA   HEALTH SCIENCES

8.4 Project Locations

The map (**Figure 8.4-A**) below and on the facing page shows the locations of the six capital improvement projects. The location of the south library hub is shown as an area of campus, the exact location to be determined when appropriate by UW-Madison's Division of Facilities Planning and Management as funding is available.

Figure 8.4-A: Masterplan Site Plan

STEENBOCK HUB	SOUTH HUB	COLLEGE HUB	MEMORIAL HUB
Engineering	Business	Undergraduates	Archives
Life Sciences	MERIT	Undeclared	Art
Mathematics	Social Work		Geography
Physical Sciences			Humanities
			Music
			Social Science
			Special Collections

LAW

8.5 Next Steps

With a vision and a plan in place for the future of campus libraries, leadership at the university and the libraries shall undertake efforts to identify sources of funding for projects.

Each project will require a pre-design phase to identify the specific public spaces, partnerships and user spaces to be included for the individual libraries and their discipline constituencies and to better define project costs.

For the south library hub, once funding has been secured for the new building, Facilities Planning and Management will assist with identifying the appropriate location for the library, whether free standing or more likely as part of a larger development.

APPENDIX 1 | USER RESEARCH & THEMATIC VISIONING

User Research Findings

From November 2016 to February 2017, brightspot strategy engaged UW-Madison library patrons and staff to uncover key insights into patrons' current behaviors and future needs. Through a series of engagements, the brightspot team interacted with undergraduates, graduate and professional students, faculty, library and academic staff, and public patrons. A summary of the engagements and number of participants is listed below:

- **Tours**—17 library locations each tour lasting between half an hour and three hours

- **Interviews**—Six library leaders, five campus leaders

- **Meetings/Workshops**—Three library committees, seven faculty members, ten graduate/professional students, 12 library staff, nine academic staff, one staff UX workshop, and four Thematic Visioning Workshops with library representatives from all libraries in scope

- **Town Halls**—16 undergraduates, 50+ library staff, two student community members, and two public patrons

- **Surveys**—250 faculty respondents

Characteristics

In addition to patron-specific insights, four key insights arose from the engagements that stretched across patron groups.

1. Differences across disciplines impact how and where patrons conduct research and scholarly work.

- Different location preferences for conducting research and scholarly work emerged when looking across disciplines. Students and faculty in STEM frequently cited labs and offices as preferred physical locations for their day to day activities whereas those in Arts & Humanities cited the libraries and offices as their laboratories.

- Differences within disciplines also emerged throughout the engagements. Within STEM disciplines, for example, students and faculty interact with the libraries differently: both Math and Geology are unique among other STEM disciplines in their reliance on immediate access to physical collections whereas other STEM disciplines rely more heavily on access to up-to-date digital collections.

2. Patrons feel a greater sense of community and identity at smaller, subject-specific library locations.

- Students and faculty claimed that smaller library locations facilitated building relationships with staff as well as orienting them to spaces and collections. Librarians at smaller, subject-specific library locations were often cited by full name in both the consolidation survey and the faculty survey.

- Smaller locations with fewer staff may also convey a sense of staff and patron ownership over the space. During tours of the various library locations, librarians at Social Work, Physics, and MERIT decorated and arranged the spaces to create vibrant, welcoming areas for the patrons in their specific departments (e.g., displays of influential thinkers within the subject, student staff recognition, etc.).

- Another contributor to the immediacy and sense of community at smaller, subject-specific library locations may be a result of their location within their departmental building. Librarians at Geology, for example, described how the department frequently hosts events within the space and takes advantage of its proximity to students and faculty work areas and classrooms. This embeddedness within the department creates a natural community within the discipline.

3. Patrons are eager to see the libraries improve through greater access to amenities and shared resources.

- Access to food and drink was mentioned by students and faculty both as a way to create more inviting and comfortable places as well as a way to help fuel the creative process inherent in scholarly work and research. For many students and faculty, proximity to these types of amenities influences their decision to visit one library location over another.

- Greater access to power (e.g., outlets) was also mentioned by students and faculty as they think of the libraries' future. Students in particular were vocal that the abundance of outlets could denote collaborative work areas, improve how they conduct their research or work, and ultimately help them along the road to academic success.

- Patrons were also eager to see the libraries offer a variety of furniture to accommodate a multitude of activities that might take place in the libraries. Furniture, as noted in the graduate/professional student focus group and the undergraduate town hall, can help signal to patrons which spaces are designed for quiet/individual/communal/collaborative study. Students also noted that furniture can help the libraries feel more inviting to patrons who may otherwise feel intimidated or unwelcome at a university library.

4. Patrons are often confronted by the physical inaccessibility of library spaces and expect the libraries to remediate this in the future.

- In each engagement with patrons, the topic of physical accessibility to spaces, services, and collections was discussed with great concern for the current state and anticipation for the future. During the graduate/professional students focus group, it was highlighted as a necessary priority for the libraries to increase accessibility in current spaces.

FINDINGS BY PATRON TYPE

On the following pages, the four sections describe patron-specific key insights.
- Undergraduates
- Graduate and Professional Students
- Faculty
- Public Patrons

USER RESEARCH FINDINGS - UNDERGRADUATES

1. Undergraduates use the libraries as a de facto office—a space away from the distractions of their residential halls and student unions where they are expected to study and work towards their academic success.

- When undergraduates enter a library space, they do so with a sense of purpose and seek out spaces that limit distractions. Though they may have different definitions of distractions (e.g., some students find any form of talking to be a distraction while others thrive in a cafe-style setting with background chatter) the libraries were consistently spoken about as a place to accomplish work.

- Unsurprisingly, library staff notice the purposefulness in which undergraduates use the libraries and note that beyond spaces, the libraries also offer undergraduates the resources they need to be successful students: "Students don't think of the library as the book place necessarily. They look at it as their de facto office space, for scanners, copiers, software. I'm going to my job to study and the library is the place for that. Students are feeling the crunch of where are we supposed to go now that spaces are being consolidated."-taken from the academic staff focus group

- When asked during Intercept Interviews how the libraries' spaces and furniture contribute to their academic success, undergraduates routinely cited the variety of spaces and furniture that can accommodate different activities. One student noted that by "providing a quiet place to study and a good place to collaborate," the libraries are helping to address the demands of her academic projects.

2. Undergraduates strongly associate the libraries with quiet spaces for study and thus are hesitant to use library spaces for collaborative study if they feel they will disturb others.

- Undergraduates strongly associate the libraries with quiet spaces for study. When asked to describe the qualities of quiet space and then list their preferred quiet spaces on campus, the vast majority of responses were explicitly naming libraries or describing the types of spaces historically offered at libraries. Beyond all other campus locations, the libraries are expected to offer quiet study space.

- Furthermore, undergraduates have formed stronger associations with other campus spaces than with the libraries for collaborative study space. When asked the same question to describe features of collaborative study space and list their preferred collaborative spaces on campus, the libraries were rarely cited. More often, students cited unions, residential areas, and specialty buildings such as the Multicultural Center, Wendt Engineering Hall, and the Discovery Building.

- Important to note, however, is that the qualities undergraduates use to describe collaborative spaces go beyond spatial attributes. Several noted that in order for a space to be considered collaborative, there must be a tradition of use as such and social cues that signal to others its intended use. Students also noted that when spaces are lacking these two elements—even if they are designed to be used for collaborative study—they hesitate to use them for fear of disturbing or out of respect for their peers. One student wrote, "collaborative space is where there is no worry that talking will disturb others," while another noted, "collaborative space can be pretty much anywhere as long as there's not 'quiet area' signs..." If the libraries are first and foremost dedicated to quiet study space, undergraduates will willingly look elsewhere to find collaborative space.

3. The library is a communal study space for undergraduates who find that working alongside their peers is motivating.

- While undergraduates prefer to work in quiet spaces, they also prefer to work with or alongside their peers.

- This may be partially explained by their desire to see others working diligently as a way of motivating themselves. Students at both the undergraduate town hall and through the intercept interviews, noted that surrounding one's self with hard-working peers inspires them to work equally as hard. One student noted that, "seeing other people [studying in the library] motivates me," while another mentioned "public productivity" as one way the libraries contribute to their academic success.

- When students were asked to describe spaces that contribute to their academic success, most undergraduates painted a picture of communal study: quiet or silent spaces with long tables and plenty of chairs.

- Observations of student behavior in library locations indicate that students prefer longer tables than small tables of four or less. Conversations with students led to the conclusion that they avoid intruding on others' personal space. The longer tables seem to provide ample space to spread out one's possessions, whereas the smaller tables of four or less do not provide enough personal space for students to feel at ease.

4. Undergraduates choose library locations based on convenience factors. Those factors may include the location of the library, proximity to other amenities, and the hours of operation.

- When asked "Why did you choose this library to study in today?" the majority of answers included a variation on convenience factors. These included responses such as "close to home," "close to class," and "hours fit with my schedule."

- Undergraduates also frequently cited the cafe area in College Library as a primary reason why they choose that library over other library locations. The proximity to food—especially food that is housed in the same building and doesn't require students to venture outside—is a strong motivator especially when students are prepared to "hunker down" and remain in the library for long periods of time.

5. The academic calendar will drive undergraduate students to seek out quiet study space and support wherever they can find it.

- Students, faculty, and library staff alike all noted that the libraries are packed with undergraduates during exam periods. Undergraduates at the undergraduate town hall recalled having difficulty finding chairs and space to study and shared tricks they use to avoid missing out on coveted study space (tricks include visiting more obscure/hidden library locations and camping out in a space so that others cannot take it).

- When asked how the libraries could help with a course or research project, undergraduates responded that they need extra support during end of term projects and papers both from the libraries and their partners. Some specified that they always need help citing sources, editing their papers, or even help printing and presenting their papers or projects.

USER RESEARCH FINDINGS - GRADUATE & PROFESSIONAL STUDENTS

1. While graduate students have access to shared office space to complete individual work, they depend on library spaces for various teaching activities, such as consulting with students.

- When asked where graduate and professional students conduct research or other scholarly work, responses varied from libraries to departmental offices to labs to private apartments.

- Graduate and professional students discussed the need for more consultation spaces where they can privately meet with undergraduate students to discuss private or sensitive topics regarding their academics. During the graduate/professional student focus group, participants suggested the libraries create more "private, comfortable, and reservable spaces [to meet] with undergraduates." Currently, these teaching assistants / teaching fellows will use open study space at the libraries to host these potentially sensitive conversations or ask undergraduates to stop by their shared office. Neither option is appealing to graduate students given the need for privacy.

- Graduate and professional students also discussed using large group study rooms to host multiple undergraduates at a time. In these instances, they are looking for spaces large enough to host their groups and flexible enough to accommodate presentations and small group work.

2. Graduate students choose library locations based on the resources they provide. Those resources may include the types of spaces, collections, staff expertise, and general culture of that library.

- Compared to undergraduates and faculty, graduate students are more likely to visit multiple library locations rather than return to the same one time and time again. This may be explained by the purposefulness in which they visit libraries: students visit a library because they are in search of a particular space, looking to access a type of physical collection, or are referred to a specific library staff member. Some students in the graduate/professional student focus group noted that the "vibe"—or general culture and aesthetic—of a library might outweigh that of another.

- Of those surveyed, 100% of graduate students reported that interactions with library staff always left them better off than where they started; in fact, of the graduate students who participated in the focus group, approximately 50% reported having a strong relationship with an individual library staff member who they turn to for support.

- In addition to spatial qualities such as noise level and activity support, graduate and professional students are also looking for spaces that limit their interaction with undergraduates. One popular example is the Graduate Room in Memorial Library. During the Intercept Interviews, several students recommended the libraries create more such places (as well as spaces specific to other graduate activities such as dissertation writing).

- Despite a greater willingness to choose multiple library locations, graduate students often find themselves returning to Memorial Library because of the variety and amount of spaces it hosts.

UW-Madison | Campus Libraries Facilities Master Plan

3. In addition to providing quiet study spaces, graduate students also view the libraries as places for collaborative study spaces; however, they may be more likely to default to quiet even in spaces designed for collaborative work.

- During an interview, one graduate student imagined the role that libraries could play in hosting academic student groups. She noted that some student groups are focused on more "serious" topics and that hosting meetings or events in the libraries would add gravitas to their discussions in a way that student unions or department spaces may not. Libraries are also more flexible with their spaces than department buildings and could provide more space than the shared graduate offices.

- Graduate students in the graduate/professional student focus group also expressed their satisfaction with the Memorial Graduate Room but noted that often their peers default to quiet study. Developing clear indicators that a space is designed for collaborative work can give graduate students the permission they feel is needed to engage in these types of activities.

4. The variation between graduate, professional, and PhD student programs requires these students to access different types of spaces to accomplish their work.

- Whereas graduate students may engage in a combination of individual and collaborative work while in pursuit of a master's degree, doctoral students are more likely to be focused on individual work and require quiet—if not silent—spaces to work.

- Doctoral students were explicit in Intercept Interviews that the libraries should create an additional, segregated work area for students writing their dissertations.

- In touring the various professional school libraries, it is apparent from student activities and the furniture that supports them that the curricular differences between Law, Business, and Ebling are reflected in the libraries' spaces. Whereas Law and Ebling were largely focused on individual, quiet work space, Business offered more support for collaborative work.

5. Similar to faculty and influenced by discipline, graduate students noted a preference for immediate access to physical collections.

- During an interview, one graduate student strongly advocated for immediate access to the Math and Physics physical collections—primarily the textbooks and other reference materials, or reserves. According to this student and echoed from graduate students at the graduate/professional student focus group, graduate students use these physical collections for quick reference but do not check them out. Having such materials close at hand is crucial for some departments whereas others can survive on book delivery or digital collections.

USER RESEARCH FINDINGS - FACULTY

1. For faculty, the libraries are a source of inspiration and motivation, and are symbolic reminders of their colleagues' scholarly work.

- For many faculty, the libraries have always been a source of knowledge and inspiration given their role as a curator of scholarly work. One faculty noted that he/she is "amazed at how many old books can be held in one's hand" and that he/she "would continue to encourage physical—rather than digital—use of the library system here. This would be in the form of supplying [patrons] with beautiful rooms in which these old books form an integral feature."- taken from the Faculty Survey

2. Although equipped with office space, faculty often turn to the library to avoid distractions in order work and, thus, seek out quiet, individual spaces.

- For STEM, Arts & Humanities, and Social Science faculty, quiet (including silent) and individual spaces rank most important above all other spatial attributes (see **Figure A1-1**).

Figure A1-1: Faculty Survey

Question: When I visit the library's physical location, I am most likely looking for the following types of spaces. (Check all that apply.)

Results: Percentage of respondants selecting from the following 7 options by faculty type. Highest responses to first five options noted in green.

FACULTY TYPE	Silent spaces with restrictions on noise	Quiet spaces with limited noise	Spaces with no restrictions on noise	Spaces for Individual work	Spaces for group work	Other	I do not work in the library's physical locations
STEM	18%	17%	3%	**20%**	10%	8%	24%
Arts & Humanities	23%	21%	4%	**32%**	8%	7%	6%
Social Sciences	22%	19%	7%	**23%**	9%	6%	14%

3. Faculty are digital first; however, disciplines influence how frequently they use physical locations and collections.

- Regardless of discipline, faculty who were surveyed reported visiting the library's digital presence more frequently than its physical locations (see **Figure A1-2**).

- When faculty do visit physical library locations, those from Arts & Humanities and the Social Sciences are more likely to frequent these locations more often when compared to faculty in STEM departments (see **Figure A1-3**).

- Faculty are often visiting physical library locations to access physical collections. For Arts & Humanities faculty in particular, the ability to browse through stacks and easily access collections contributes greatly to their success as researchers and scholars. Faculty from STEM and Social Science disciplines are less reliant on physical collections and rank access to digital collections as more important (see **Figure A1-4**).

Figure A1-2: Faculty Survey

Question: How frequently do you visit a library's physical space and digital presence?

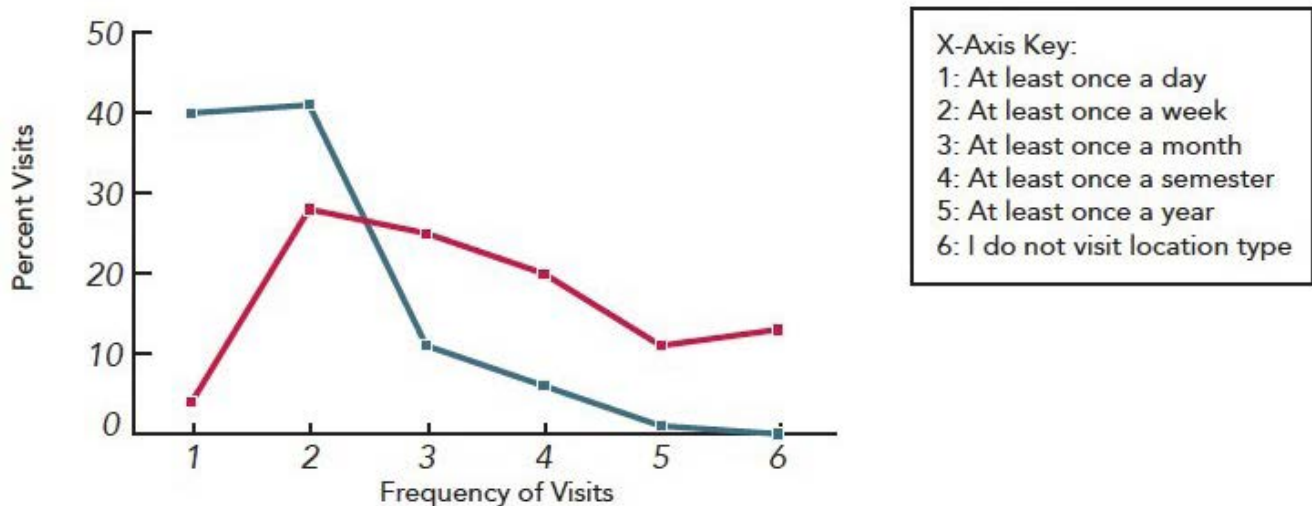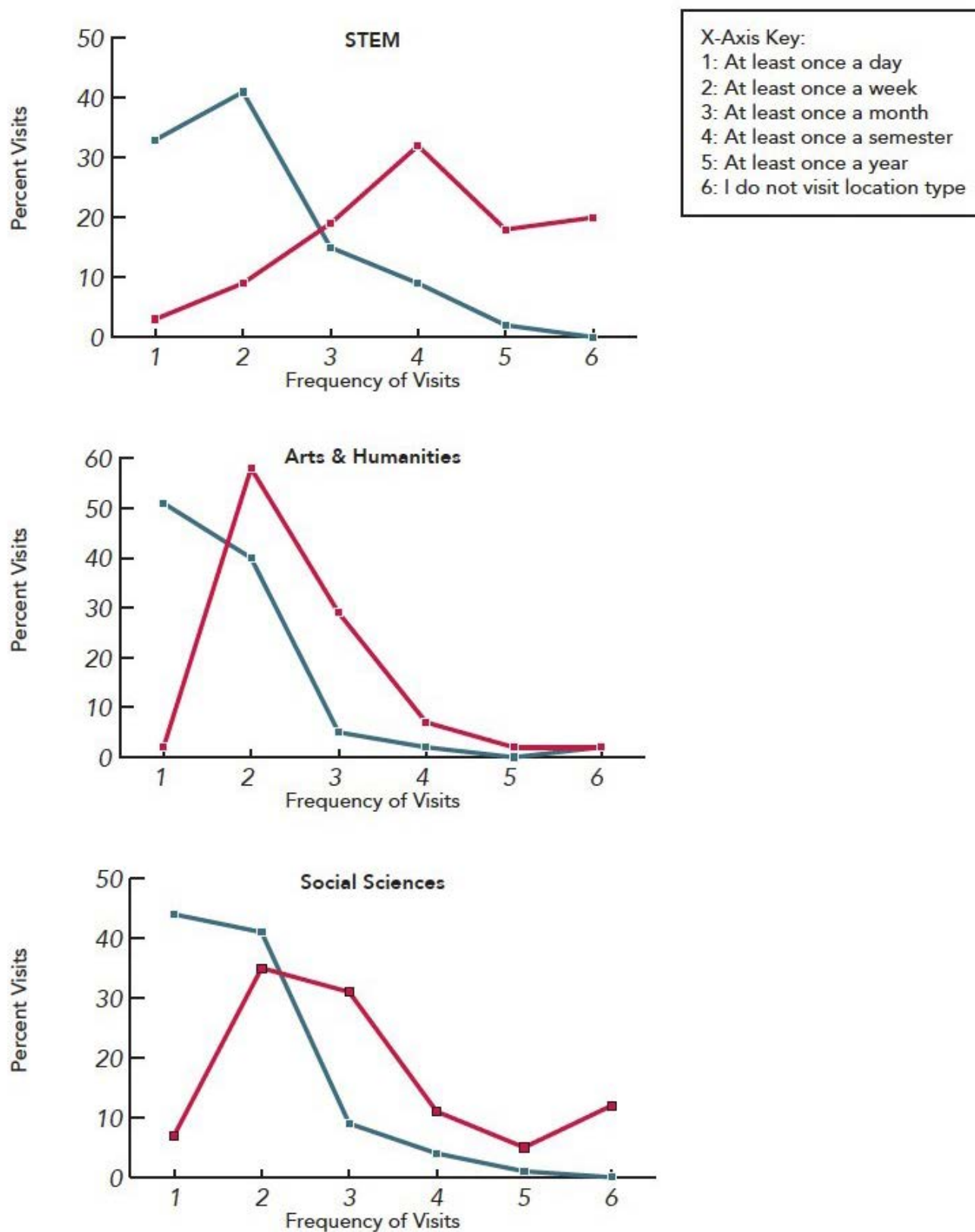Legend: Red line = Physical Spaces, Blue line = Digital Presence

X-Axis Key:
1: At least once a day
2: At least once a week
3: At least once a month
4: At least once a semester
5: At least once a year
6: I do not visit location type

Figure A1-3: Faculty Survey
Question: How frequently do you visit a library's physical space and digital presence?
Legend: Red line = Physical Spaces, Blue line = Digital Presence

X-Axis Key:
1: At least once a day
2: At least once a week
3: At least once a month
4: At least once a semester
5: At least once a year
6: I do not visit location type

Figure A1-4: Faculty Survey

Question: Rank the types of collections by importance to your academic work/research with 1 being the most important and 4 being the least important. Choose from physical collection, digital/electronic collections, special collections or format irrelevant.

	Importance of Collections Type			
Academic Category	Most Important (1)	Important (2)	Less Important (3)	Least Important (4)
STEM	Digital (1.3)	Physical (2.3)	Special (3.1)	Format Irrelevant (3.3)
Arts & Humainities	Physical (1.6)	Digital (2.0)	Special (2.9)	Format Irrelevant (3.5)
Social Sciences	Digital (1.7)	Physical (2.0)	Special (3.1)	Format Irrelevant (3.2)
ALL	Digital (1.5)	Physical (2.1)	Special (3.1)	Format Irrelevant (3.3)

4. Faculty are consistently satisfied with the physical service interactions they have but are often frustrated by the digital ones.

- Faculty are likely to walk away from an interaction with library staff feeling better off than before.

- Many faculty applaud the professionalism and expert guidance library staff demonstrate with every interaction: "The staff is always very professional: knowledgeable, helpful, courteous, and patient."- taken from the Faculty Survey

- Many of the comments regarding library services and positive library experiences explicitly named a librarian and the impact they have had on the success of that faculty member. In a library system as large as UW-Madison's, identifying library staff by their full name demonstrates the strong relationships many faculty and staff have forged.

- Though faculty suggested ways to improve physical services, the majority of comments focused on improving digital services. Overall, faculty are eager to see more user-friendly and efficient digital services especially considering it is often the only interaction between faculty and the library.

5. Despite inevitable changes, faculty maintain the same level of expectations with regards to spaces and services that they formed from their first interactions with libraries.

- On average, faculty survey respondents reported a tenure of 11-15 years with outliers on both ends of the spectrum. In the span of a decade alone the libraries have undergone a number of changes prompted by advancements in technology, needs and make-up of the UW-Madison community, and organizational developments; however, in many respects faculty still maintain the same level of expectations they formed prior to all these changes.

- Faculty and staff alike noted in separate focus groups a stated "need" for speedy book delivery. The maximum amount of time patrons are willing to wait for delivery fluctuated greatly from person to person, discipline to discipline, and even from focus group to focus group. The large variation in time may be defined more as preference and expectation rather than need. Faculty are often accustomed to having immediate physical access to collections and while those collections have moved off-site or must be accessed through another school, faculty still expect to have immediate access.

- Similarly, faculty expect to be able to easily drop-off and pick-up books at any library location. Parking and inconvenient geographic locations were often cited as a nuisance in the faculty survey. One faculty member noted: "...suppose there were a centralized drive-through (or very conveniently located with easy free short-duration parking) facility for picking up books ordered for book delivery (shelf pulls) or ILL books—not necessarily attached to an existing library—open 24 hours (or at least until midnight every night). Memorial Library is certainly not quick and easy for picking up and dropping off books. And the problem with picking up books delivered elsewhere is that the library hours are too limited."- taken from the faculty survey

- Faculty also expect the libraries to be a safe and secure—where they can momentarily leave their belongings while they search through the stacks. Of the faculty who have faculty carrels, having this enclosed space to store their belongings is incredibly valuable given how long they spend in the libraries.

- While collections have been digitized or moved off-site, many faculty still struggle with the concept of digital browsing and do not find it comparable to physical browsing. For many, the concept of consolidating collections not only means losing immediate access to them but also losing the ability to browse and discover new resources through browsing.

- Several faculty mentioned the appeal of food or drink options near library locations but hesitated to include these types of spaces in the libraries. This may stem from a traditional association of libraries with "no food or drink" policies to protect the collections.

USER RESEARCH FINDINGS - PUBLIC PATRONS

1. Public patrons use the libraries to conduct research and access resources that have not been made available to them elsewhere.

- Two public patrons in an interview reflected on their experiences at UW-Madison libraries and stated that first and foremost they come to the libraries in search of resources and materials to support their research endeavors—whether for work or simply out of interest. Often the resources and materials they are accessing include physical collections, digital collections, and public access computers.

2. UW-Madison librarians have been instrumental in helping public patrons progress with their research.

- One public patron noted that without library resources, he would not have been able to progress his research and build connections with other researchers with similar interests. The libraries, in this way, helped introduce him to a topic and the researchers most involved in its exploration.

3. Public patrons are unaware of additional library services beyond access to resources and spaces.

- When asked if they used other library services such as workshops or consultations, public patrons were surprised that such services existed let alone were available to them.

- Both public patrons interviewed expressed interest in learning more about publishing and how the librarians could help them with citations and data management.

4. Public patrons value the relationships they build with library staff in the advancement of their work.

- As a result of forming these relationships, library staff consistently point them in the direction of where to find valuable resources for their research and often introduce patrons to resources they didn't know existed.

- Furthermore, these relationships make public patrons feel welcome, and encourage them to continue using library services. One patron noted that the librarian helped introduce him to other researchers and invited him to tour and use the library spaces. This personal introduction helped him feel included and established a strong relationship between him the librarian.

USER RESEARCH FINDINGS - STAFF

1. Library staff both want and need collaborative work environments to be more effective and connected to their colleagues.

- As the demographics and make-up of library staff continues to change, identifying opportunities to formally and informally connect staff to one another and develop relationships will enable the organization to deliver excellent support services. Offering more collaborative staff spaces such as lounges, conference rooms, and redesigning the layout of offices/desks can assist in enabling formal and informal interactions throughout the day.

- In an interactive survey conducted with more than 50 participants at a town hall for library staff, an overwhelming majority of staff agreed that they prefer to work collaboratively with their colleagues (90% agreed with the statement "I prefer to work collaboratively with my colleagues rather than on my own") yet most staff do not feel connected to those colleagues (23% agreed with the statement "I feel connected to all library staff regardless of the physical location in which we work.")

- Staff at the Law Library noted that they feel very connected to one another. Observations and tours revealed that their offices are situated in the same area of the library placing each department in close proximity to the others. Doors to offices allow staff the privacy they need while a shared staff lounge encourages informal gatherings and group work sessions.

- Staff at Memorial Library, on the other hand, noted they felt "disjointed" and that spaces seemed "neglected." Observations and tours revealed that departments are spread across multiple floors and communal staff spaces are informally created and small in comparison to the Law Library's staff lounge. Rather than encourage staff to make connections with one another, limited space and an abundance of materials effectively hide staff from one another.

2. During renovations, patron spaces have historically been prioritized over staff spaces; the facilities master planning project is an ideal opportunity to reconsider staff space needs.

- Staff noted that collections consolidation and space changes prompted by academic departments historically open conversations about improving the patron experience. At times, staff spaces have been condensed or eliminated in order to make room for patron needs as seen most prominently in Wendt Library. In both town halls and focus groups, staff voiced excitement to begin the process of rethinking their spaces and how they can transform to improve their work moving forward.

3. Library staff at satellite library locations often sacrifice time and energy to collaborate with colleagues at centralized library locations.

- The majority of staff meetings take place in Memorial, College, or Steenbock Libraries because they are centrally located when compared to other, smaller library locations and because they house a number of different meeting rooms with various capabilities. While hosting meetings in these three libraries is on average suitable to all library staff, staff located at more distant library locations may devote extra time trekking to and from a location for meetings or must relocate to one of the central libraries for an entire day but without the benefit of an office or touch-down space to hold their belongings.

- Several solutions were discussed in the staff town hall and the focus groups:

  1. Establishing a remote conference calling system into each conference room so that staff at more distant library locations can remotely call into meetings and remain in their office.

  2. Provide more staff meeting spaces outside of Memorial, College, and Steenbock libraries to encourage staff to visit other library locations and learn more about the work of their colleagues.

  3. Create temporary touch-down spaces for staff visiting from other library locations to work out of on a short-term basis.

4. Build more staff meeting spaces so that staff need not use a patron group study room.

4. Partnerships complement library staff roles and responsibilities while promising robust services to patrons.

- Partner services such as the Writing Center, DesignLab, and delivery services help enhance the patron experience but are also noted as complementing staff roles and responsibilities. These partners provide additional resources, people, and expertise that library staff rely on to help deliver services that meet patron expectations.

5. Library staff engage in a variety of activities and require flexible, differentiated spaces in order to successfully accomplish their tasks.

- Staff are either working independently or collaboratively and require spaces that accommodate both activities. In both activities, staff may require visual and aural privacy or the option to create barriers between work space and open space.

- Staff are also providing a variety of services to patrons that require specialized spaces. Liaisons, for example, may benefit from having their offices or consultations spaces to be located near main service points. Instruction spaces should also be flexible to accommodate staff meetings or patron activities when not hosting a class.

PROGRAMS | SERVICES

In order to assess the current state of services within the Libraries, the consultant team met with the same user groups mentioned in Section 3.2.2 of this report. Additionally, findings were discussed and vetted with both the steering committee and working group during in-person meetings and workshops.

Currently, although services offered by the Libraries are valued by patrons, many service points and offerings remain hidden and less accessible than desired by users. In order to increase the value and efficiency of services, the Libraries are looking to adopt a new service delivery model that will prioritize interactions over space maintenance.

The following five key insights highlight the current state of services at the UW-Madison Campus Libraries.

1. Research services remain hidden and less developed than teaching and learning services, which are more evident throughout the libraries.

- Research gathered by the consultants indicates that research services lack visibility in library spaces although both patrons and staff alike recognize their value. Undergraduate students have commented that the libraries do not "advertise their services." Opportunities to increase the visibility of these services should be addressed since all types of patrons have expressed their appreciation for in-person support. Indeed, the steering committee expressed an interest in integrating staff into public spaces during a discussion on library design trends.

- Currently, faculty are most likely to engage with library services when they are gathering information for their field of work or a different/related field of work as well as for teaching-related purposes (see **Figure A1-5**). Looking across disciplines, engagement with library services differs slightly between STEM and Arts & Humanities with Social Sciences typically splitting the difference: STEM faculty are more likely to use the library when gathering information about a different/related subject and for organizing information and data whereas Arts & Humanities faculty are more likely to use the library for topic generation and assistance with publication and promotion

Figure A1-5: Faculty Survey

Question: At which stage(s) of your academic work/research are you most likely to use library services? (Check all that apply.)

Results: Percentage of respondents selecting from the following 10 options by faculty type. Highest responses are noted in green.

FACULTY TYPE	Topic Generation	Gathering information about your field of work	Gathering information about a different/related field of work	Organizing information and data	Data storage and management	Communications (writing, visualization)	Publications and promotion	Teaching	Connecting to other faculty/ researchers	Other
STEM	10%	**27%**	19%	8%	3%	5%	8%	17%	2%	1%
Arts & Humanities	13%	**26%**	15%	6%	2%	4%	9%	19%	5%	1%
Social Sciences	11%	**25%**	18%	9%	3%	4%	7%	18%	3%	2%

- Unsurprisingly, faculty would like to see additional/improved library services that they are most likely to use currently such as gathering information for their field of work (see **Figure A1-5**). Looking across disciplines, STEM and Social Sciences are eager to see additional/improved services in communications, publication and promotion, and data storage management whereas Arts & Humanities faculty are eager to see additional/ improved services in gathering information about a different/related field and connection to other faculty/ researchers.

Figure A1-5: Faculty Survey

Question: At which stage(s) of your academic work/research would you like to see the library offer more/ improved services? (Check all that apply.)

Results: Percentage of respondents selecting from the following 10 options by faculty type. Highest responses are noted in green.

FACULTY TYPE	Topic Generation	Gathering information about your field of work	Gathering information about a different/related field of work	Organizing information and data	Data storage and management	Communications (writing, visualization)	Publications and promotion	Teaching	Connecting to other faculty/ researchers	Other
STEM	1%	**18%**	11%	15%	16%	12%	10%	12%	4%	1%
Arts & Humanities	5%	**31%**	18%	10%	13%	4%	3%	9%	7%	0%
Social Sciences	5%	**24%**	14%	11%	9%	7%	10%	10%	6%	4%

2. **UW-Madison Libraries are in the process of adopting a new service delivery model to more effectively and efficiently address patron needs with existing or fewer staff.** The steering committee has noted the current opportunity for improving service delivery by developing a more unified approach. Indeed, leadership have indicated that the libraries' budget does not allow for the maintenance of all existing library spaces, and that some library staff could be better utilized delivering services rather than maintaining space. There are opportunities to repurpose staff and place them in front of patrons where they are both needed and wanted.

3. **Certain types of spaces are valued as a service by library patrons and are drawing people into library spaces.** Patrons value reservable rooms, group or individual, and want more of them. Such rooms require an improved reservation system that is seamless and easy to use. Indeed, offering certain kinds of spaces that require operational support should be categorized as a service. Such desirable spaces are potentially drawing people into the libraries where they will have the opportunity to interact with other services they may not have considered.

4. **Library staff expertise is highly valued and appreciated by all types of patrons.** In conducting user research, the consultants found that 100% of surveyed graduate/professional students, 88% of surveyed undergraduates, and 67% of surveyed faculty agreed that they find their interactions with library services leave them better off than where they started (see figure iv.). Indeed, 85% of surveyed library staff agreed that they are proud of the quality of services they deliver to library patrons. Faculty in particular expressed the value and usefulness of librarian expertise for their research needs. Additionally, undergraduates noted their appreciation for in-person consultations and librarians who visit their research-heavy classes.

5. **Partnerships with non-library entities are a proven success.** Moving forward, the libraries need to establish a clear direction and vision on partnerships to ensure alignment with university goals. As an example, the partnership with SOAR is expected to bring undergraduates into the libraries immediately at the start of their freshman year and familiarize them with library services. DoIT has noted positive results from their partnership with the libraries and would like to see more opportunities going forward. To that end, they require more flexible and mobile spaces within the libraries in order to achieve their goals. Library staff have expressed an interest in developing more partnerships with organizations that are aligned with the libraries on mission in order to help in the sharing of resources, such as the new partnership with the University Press.

KEY CHARACTERISTICS
Patron Group Libraries

	Spaces	Services	Partners
Similarities	Access to course reserves (near class rooms)	Coordinated services that centrally located	Departments using teaching spaces
	Access to more power		DoIT
	Display patron work		Partners who share a core mission
	Group study space (for 8-12 people)		Student service groups
	Inclusive spaces		Therapy dogs
	Patron-specific amenities (i.e. lockers)		
	Recording in classrooms and group study spaces		
	Staff support nearby		
	Tech sandbox		
	Video conferencing spaces		
	Welcoming, accessible and secure spaces		

	Spaces	Services	Partners
Differences	CCBC:physical access to materials (collection is non-circulating; patrons come to location)	CCBC: Distance education (already exists at Ebling & Law)	CCBC: tech company to provide children's book examination center
	College & MERIT: access to pick up and drop off for collections from other locations	College & MERIT: pick up and drop off services	College & MERIT: student groups
	College: 24 hour access to a variety of collections	Law: access hours from 7:30a-midnight	College: partner to create immersive space
	Ebling: electronic access		Law: primary vendors have dedicated space
	Law: access to books (lack of ebooks) for extended periods (hrs are 7:30am- 12am)		MERIT: potentially partnering with learning space designers
	MERIT: Digital art supporting spaces		
	MERIT: Video shoot and podcast studio		
	MERIT/CCBC: access to physical collections		

Libraries: CCBC, College, Ebling, Law, Merit

KEY CHARACTERISTICS
STEM Libraries

	Spaces	Services	Partners
Similarities	Access to more power	Color and large-scale printing	Departmental Advising
	Access to textbook, references and reserves	Computer clusters	Faculty office hours and TA office space
	Consultation and group study space	Grant writing (does not need to be everywhere)	IT help desk
	Display space	IP consultation	Research Data Services
	Event space for social activities for STEM departments	More appropriate hours for access to spaces and services	Social activities for STEM departments
	Lab meetings space for grad students	Presentation practice space with recording technology	Student groups (that align with library mission)
	Large, flexible spaces to accommodate advanced technology	Research consultation	Tutoring and Writing Center
	Larger meeting spaces (10-30 people)	Self-checkout	
	Public lecture room and event space (not at every library)	Virtual conferencing	
	Safe and secure spaces		
	Study and collaborative spaces		
	TA/Faculty advising space		
	Teaching & instructional spaces (except for Math)		

	Spaces	Services	Partners
Differences	Chemistry / Physics / Geology: electronic access to journals		Geology: available partner space
	Geology & Math: physical access to collections		
	Geology: Community patron spaces (for meetings)		
	Wendt: access to microfiche storage		

Libraries: Astronomy, Chemistry, Geology, Math, Physics, Steenbock, Wendt

KEY CHARACTERISTICS
Arts and Humanties / Special Collections / Archives

	Spaces	Services	Partners
Similarities	Access to more power	Café for patrons and staff	Digital group to help with curation for exhibitions
	Better signage and wayfinding to expertise	Filming and recording services and spaces	DoIT
	Enclosed private/group study space	Guiding and teaching role	IT for onsite support
	Flexible and supported event space	Mediated access for some collections	Research Data Services
	Instruction space for interaction with collections	Visibility of services and subject experts	Student Groups that align with library
	Loading dock	Visible IT help desk	
	Onsite access to microfiche	Virtual browsing and discovery	
	Private consultation spaces (with resources, tools and tech)		
	Project rooms for long periods of time		
	Video conference rooms and variety of meeting rooms for staff		
	Visible and accessible exhibition space		
Differences	Art: a staff-only space (i.e. break room)	Memorial: single service point with lots of expertise	Art: partnering with department to display student and faculty work
	Memorial: better coordinated exit and welcoming entrance	Special Collections: Supervised reading room	Memorial: Friends of the Library
	Memorial: defacto quiet study space		Memorial: interdisciplinary groups around campus that use collections
	Memorial: Physical access to digital materials		Memorial: Student services (i.e. Writing Center)
	Special Collections & Archives: Appropriate security for collections/materials		Memorial: the ISchool (library school)
	Special Collections & Archives: Climate appropriate storage and spaces		Music: maintain close relationship with academic department

Libraries: Archives, Art, Memorial, Music, Special Collections
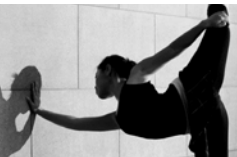
KEY CHARACTERISTICS
Social Science Libraries

	Spaces	Services	Partners
Similarities	Access to more power	Immediate access to IT help and support (for staff and patrons)	DoIT
	Access to textbook reserves (except Geography)	Immediate access to librarian expertise	Student services (except for Business)
	Group study space (6-8 people) with tools and technology	Speedy delivery of collections	Writing Center
	Immediate access to physical collection is NOT a requirement	Terminals with specialized software	
	Individual spaces		
	Presentation space with recording technology		
	Private consultation space with side-by-side tech		
	Variety of seating		
Differences	Business & Social Work: private consultation space due to sensitive and confidential topics	Business & Social Sciences: Data analytics technology	Business: library acting as partner to the department
	Business: physical access to digital collection (i.e. digital materials can only be access on computer terminal on site)		Social Sciences: SSCC virtual desk
	Geography: Makerspace		
	Geography: textbook reserves need to be nearby to classrooms and offices		
	Social Work: access to monographs and immediate physical access to videos for teaching		

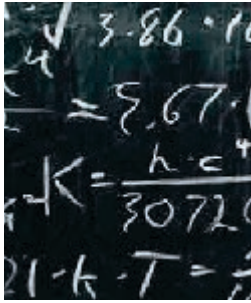Libraries: Business, Geography, Social Sciences, Social Work

A1 - USER RESEARCH FINDINGS & THEMATIC VISIONING

DFDM Project #15H1L

PAGE 139

THEMATIC VISIONING
Patron Group Libraries

VISION CARD Current State	DESCRIPTION Current State	VISION CARD Future State	DESCRIPTION Future State
	Adapting to survive; hope for the future; no matter what there's always change; being flexible; working with limited resources/support		Variety of spaces; multipurpose spaces; diversity of patrons and meeting their needs; recognizing the individual within the group
	Don't function in isolation; each point unique but impacts the others- living in a larger ecosystem; connections to other patrons and content beyond primary focus		Flexible everything (space; staff; processes) to accommodate change; and digital money to support it
	Enthusiastic community; sense of community for primary patron group		Facilitating; staff working together for common goal / shared vision; developing trust and relationships; orchestrating seamless experience across locations / spaces / digital vs. physical
	Providing a variety of resources / tools / spaces to help patrons produce / create		Creating inspiring spaces / moments (could be quiet or collaborative); looking forward to new possibilities
	Incubation- nurturing patrons and work that they are / will be doing; staff & spaces (ideally) provide sense of community (and safety?)	 	Strong sense of community (continue work done in current)

THEMATIC VISIONING
STEM Libraries

VISION CARD Current State	DESCRIPTION Current State	VISION CARD Future State	DESCRIPTION Future State
	Potential for innovation and growth- GLS and structures make it hard; STEM libraries are changing; want to experiment more		Research getting done; the library facilitating this
	Many ways of getting to the same destination (eg. knowledge, graduation); could do more of this; need more types of spaces to help		Homework getting done
	Physical wayfinding is confusing, in excess; but other things are hidden; complexity of collection; how much should we lead patrons?		Library as "collaborative leader" or facilitator; bringing together people and disciplines; interdisciplinary work
	Disconnect between patrons and staff		Creating spaces that are: inspiring, playful, creative (eg. Makerspace, and long-term project space)
	Lots of change: in space, patron needs, processes		Variety of space that are open to all; inclusive

THEMATIC VISIONING
Arts & Humanities / Special Collections & Archives

VISION CARD Current State	DESCRIPTION Current State	VISION CARD Future State	DESCRIPTION Future State
	Diversity of collections and resources, spread across locations; multiple paths; confusion for patrons and staff		Unity of diversity (and being able to differentiate); cohesive staff and spaces
	Memorial = mountain (eg. "go to" place); much more happening below the surface (eg. Special Collections and Archives)		Hands-on; interactive; inspiring creativity
	Patrons working across disciplines; patrons working individually; staff spread thin		Nurturing spaces, people, collection; green, healthy spaces
	Patron experience: uninviting; no clear sense of where to start; lots of collections and resources but hidden or not easily accessible		All working together; adaptable; strong; being connected / working together for a purpose
	Moving forward at a slow pace; shell = protecting (eg. collections); risk averse- can be positive or negative		Happy staff and patrons; community
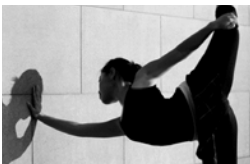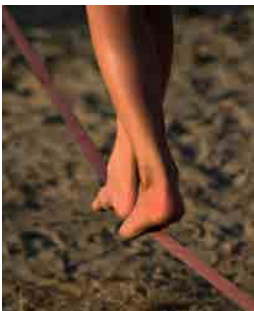
THEMATIC VISIONING
Social Science Libraries

VISION CARD Current State	DESCRIPTION Current State	VISION CARD Future State	DESCRIPTION Future State
	Cozy spaces; sense of community; sense of place rather than space; shared ownership of space		Flexibility of spaces and staff
	Human component in service delivery and building community; helping our patrons (especially those that may be intimidated by the library)		Finding balance rather than living in extremes (eg. high density vs. empty)
	S.S. libraries going in similar direction with slight variations; patrons may not know exactly where they're going- "voice of consumer is murky"; need clarity for future		Interconnectedness of the community (staff, locations, services, etc)
	Cluttered; at capacity of collection and in spaces for people; seeking balance		Maintain sense of community mentioned in current state
	Mismatch of high density and empty spaces; seeking balance (multipurpose? and flexible? spaces)		Excitement over change! Exciting new spaces

This page is intentionally left blank.

APPENDIX 2 | COLLECTIONS, SPACE NEEDS AND DISTRIBUTION

Appendix includes:

A2.1 INTRODUCTION

The continuing evolution of library service away from a collections-only focus is framed by the reality that physical collections remain essential and that a significant amount of high value on campus space is devoted to housing these resources. To accommodate a better balance of services and space use across the campus libraries, the collection has been evaluated by the Campus Libraries' Space Planning & Shelving Committee and by The Resource Management Group. This work, summarized in the UW-Madison Libraries Campus Collections Plan (Approved: 2/20/2012 by the Space Planning and Shelving Committee and 2/24/2012 by Resources Management Group) is used as a starting point to understand current and needed storage and access arrangements, environmental requirements, and distribution goals.

The University of Wisconsin-Madison's Collections have over 8 million volumes, over 125 miles of shelving, and is the 11th largest research collection in North America. Our collections are vital for supporting the research and teaching needs of our faculty, students, staff, residents of Wisconsin, and the mission of our university. As we continue to expand our collections, adding over a mile of books and journals per year, we continue to need space to shelve and access these materials. Our goal is to maintain our campus libraries below the American Library Association's standard of 80% capacity which is considered "critically full." Although electronic resources have become an important medium, print materials will continue to play an important role for historical and future research purposes. In order to guarantee access to our collections in the future while making room for both expansion and alternative uses of library space UW-Madison's library system have developed a shared campus collection plan:

Active Campus Collections (the publicly accessible shelves within our campus libraries):
Campus libraries are committed to maintaining dynamic and accessible collections. We will continue to participate in on-going assessment and review of our collections in order to make sure our active collections meet the current needs of our users, that will serve the anticipated future needs of our users, and that build on our unique collections strengths. The following guidelines determine which materials remain on active and publicly accessible on-campus shelves:

- Items which demonstrate high use based on circulation, browsing and other usage statistics are likely to remain on active shelves.
- Protecting efficient intellectual access to information remains a high priority for campus libraries. As such, transferring currently vital resources to facilities inaccessible to library users would have adverse consequences to research and teaching.
- Browsable collections are the cornerstone to our success as a research institution. Materials identified as needing browsable and immediate access are likely to remain on active shelving.
- Fragile materials that may be damaged in transfer will remain a part of on-campus collections.
- Special collection materials, because of their rarity, value, and necessity of controlled environmental conditions, will remain on-our campus shelves.
- Large volumes/sets which would be costly to move from one collection to another or lack sufficient bibliographic access will remain on active shelving.

UW-Madison Shelving Facility Collections (the closed stack facilities located both on and off our campus):
The following factors will contribute to the decision of moving materials to one of our shelving facilities: pressures on shelving capacities in campus libraries, the historic and predicted usage of an item, the local uniqueness of an item, and formal agreements with storage and access partners. Titles transferred to shelving facilities which experience significant use can be returned to a campus library quickly. The following guidelines determine which materials may be shelved in one of our campus shelving facilities:

• Materials held in any of the GLS collections, or other campus resource libraries (such as Law, Health Sciences, etc.) may be considered part of the storage plan or may be considered for transfer to other campus collections/facilities.
• Selection for the shelving facility will be done at the levels of specificity appropriate for the materials.
• There is demonstrated low use of the title based on circulation, browsing and other usage statistics.
• There are no duplicates of the title in the same format in other active campus library shelving or campus storage.
• The title is available in the same format from a consortia partner.
• For titles with duplicative local electronic coverage, the vendor license provides for ownership of the online format with perpetual access rights.
• Active shelving locations which are at or above capacity, hindering collection browsing and collection development.
• Materials which make a significant change in space available within our active collections may be considered for a shelving facility (i.e. larger collections, sets, etc.).

Criteria for Withdrawal of Materials:
UW-Madison Libraries' are dedicated to retaining as much unique content as possible in our collections. The following guidelines may be considered when determining whether to withdraw a title:

• Last print copies may be withdrawn if we have formal agreements with consortia partners; we will not withdraw copies for which we have the retention obligations
• Title is available through electronic coverage accessible on campus, with ownership/perpetual rights.
• There is a duplicate copy of the title in any format, including microformats, in another UW-Madison library shelving location or from consortia partners.

Central to the evaluation is the experience of the UW-Madison campus library system, as well as peer institutions, in marking the transition into a digital access to information. Sharing of resources has emerged as a core strategy and will continue to be a growing aspect of collection management. UW-Madison participates in several established and several pilot projects to provide member institutions access to various subject and format collections. These projects, along with a shift from physical collection only to physical and digital collection acquisition, is expected to slow the demand for physical collection storage space, allow the university to specialize in certain high-value collections, and maintain a deep and broad set of collections.

Source data is provided by UW-Madison Campus Libraries and is current as of July 2017. This source data and all subsequent calculations are, at their root, based on linear feet of current collection. This is the measure that provides the greatest range of reliable information about the current collection. Subsequent translations into area, number of shelves, or number of sections of shelving are made using various factors explained in each calculation. No data is available for Health Sciences (Ebling) Library. Health Sciences is assumed to remain as configured after the planned 2018 renovation. No data is available for the Wisconsin Historical Society which houses the UW-Madison collection on North American History.

The libraries are engaged in a series of consolidations, shared print, and de-duplication projects. These on-going projects will continue to shift the baseline counts. A rounding allowance at the end of key calculations has been introduced to acknowledge these shifts.

A2.2 ANTICIPATED COLLECTION SIZE

Existing Collection

Table 1 presents the current holdings, total storage capacity, and assess remaining available capacity. The data utilizes an average of 12 volumes per linear foot (vol/lf) to determine shelf capacity and presumes a 100% fill rate for the occupied shelves. This is not the ideal or actual condition. Most shelves are filled at something between 95% and 100% of capacity. This is well in excess of standard best practice of an 85% fill rate and exceeds the American Library Association standard of 80% filled constituting a full shelf.

Anticipated Acquisitions

Anticipated acquisition counts for each Library are summarized in **Table 2**. This data is from campus libraries for FY2016 "Items Added". This acquisition rate acknowledges a continuing shift toward acquisition of digital formats when possible tempered by an understanding that a significant number of necessary titles are available only in hard copy format. The projection for FY2016 was 60,000 physical items across the libraries. This becomes a baseline for extrapolating 20 years with each year's growth reduced by 2%. The aggregate is converted to linear feet of collection at 12 volumes / linear foot of shelf, also at a 100% fill rate.

Anticipated Withdrawals

There is a significant amount of progress and opportunity around withdrawals. Much of this is center on the shared-use of materials. UW-Madison Campus Libraries is currently engaged in
- the BTAA which has been a leader in the area of shared journal collections.
- the continuation of the SPR program will allow us to continue to withdraw journal content.
- working closely with CRL on another shared journal program related to JSTOR titles.
- leading efforts in the BTAA to explore shared microformat collections.
- participating in early discussions around shared monograph collections – these are still in their early days, but the library is one of the initial participants in the HathiTrust shared print project.

One challenge to keep in mind in projecting the long-term impact of current effort is to realize that they are generally project based: a set of materials is identified for withdrawal because it meets a certain set of criteria, typically it is part of a shared print initiative (journals) or it is a low-use duplicative monograph. There is a large amount of uncertainty associated with the rate at which these projects can be accomplished. An example is the work that the libraries are doing with Big Ten schools on a shared print journal project. The goal of that project is to store 500,000 volumes of journals at Indiana and Illinois. The project team needs to identify what publishers and what titles they are interested in, campus libraries has to find funding for the staff time to identify which titles are owned and how many volumes are in UW-Madison libraries and then complete the withdrawals. The result of the process will be something less than a one-to-one match of all 500,000 volumes but how much less is uncertain. Campus libraries have been tackling this project one library at a time and are looking at using five-year cycles to circle back around to libraries we've already hit in the past.

The withdrawal of low-use duplicative monographs is a separate issue. Some individual libraries have tackled that, but most have not. The libraries have undertaken some preliminary and rudimentary analysis, but need more sophisticated to tools to have an idea of the scope of the issue. The libraries are engaged with various sources to evaluate tools to facilitate the analysis. With the tools in hand the next step is to identify funding for the staff time required. An overall plan is anticipated in the near future.

Within this context a set of "typical" and "special project" withdrawals were developed. These are summarized in **Table 3**. The "typical" withdrawals identified reflect the efforts of the fiscal years 2013 through 2014. These are years prior to the recent push toward a shared print effort with the Big Ten Academic Alliance (BTAA). A separate additional set of "special project" withdrawals was determined to account for the impact of the project based withdrawals. These are based on the 2016 efforts with shared print projects. The 2016 results were halved to acknowledge that pace of these efforts is funding dependent. The 20-year projection is cumulative of the "typical" and the "special project" withdrawals.

Longer term, the ability of the libraries to shift collections into a shared program will begin to diminish. The need to shift will also diminish. This will be a result of a shift to more digital purchases and total holdings shifting toward a new balance of digital and print. Print holdings becoming concentrated in unique, rare, special interest, or unavailable in digital formats; and maintenance of current holdings that are not or cannot be effectively digitized.

Future Collection Size
Table 4 summarizes the anticipated physical holdings of the libraries. The anticipated collection includes the current holdings, plus the anticipated acquisitions, less typical withdrawals and less special project withdrawals. The 20-year collection is expected to be just under 7% larger than the current holdings. A total collection capacity of 500,000 linear feet is recommended.

Table 1 - Existing Conditions
This is used to establish current holdings remaining capacity and current total system storage capacity. Current collection information from GLS, uses a 12 volumes per linear foot capacity (vol/lf) and a 100% fill rate presumed for the occupied shelves.

LIBRARY	"2017 Occupied"	"2017 Available"	"2017 Capacity"	% Available Shelving	% In Use Shelving	% of Total Available
TOTALS-LIBRARIES	447,878	170,621	618,499	27.6%	72.4%	
TOTALS-STORAGE	64,398	101,316	165,714	61.1%	38.9%	
TOTALS-OVERALL	512,276	271,937	784,213	34.7%	65.3%	
Astronomy	1,198	225	1,423	15.8%	84.2%	0.1%
Business	1,458	625	2,083	30.0%	70.0%	0.4%
College	1,828	458	2,286	20.0%	80.0%	0.3%
Geography	3,877	1,493	5,370	27.8%	72.2%	0.9%
Geology	3,379	7,700	11,079	69.5%	30.5%	4.5%
Kohler Art	16,163	3,145	19,308	16.3%	83.7%	1.8%
Law						
Math	3,998	1,839	5,837	31.5%	68.5%	1.1%
Memorial	316,353	98,283	414,636	23.7%	76.3%	57.6%
MERIT	5,850	2,450	8,300	29.5%	70.5%	1.4%
Mills Music	14,038	4,212	18,250	23.1%	76.9%	2.5%
Physics	4,834	1,263	6,097	20.7%	79.3%	0.7%
Social Science	444	523	967	54.1%	45.9%	0.3%
Social Work	2,116	952	3,068	31.0%	69.0%	0.6%
Special Collections	24,596	11,768	36,364	32.4%	67.6%	6.9%
Steenbock	12,831	30,856	43,687	70.6%	29.4%	18.1%
University Archive	31,350	3,300	34,650	9.5%	90.5%	1.9%
Wendt	3,565	1,529	5,094	30.0%	70.0%	0.9%
Science Library SF	12,483	9,345	21,828	42.8%	57.2%	9.2%
Verona SF	28,055	68,111	96,166	70.8%	29.2%	67.2%
Middleton SF	23,860	23,860	47,720	50.0%	50.0%	23.6%
Law Library data is available but is grouped separately with Ebling as part of a Professional Schools group within the System						
Law	26,456	5,736	32,192	17.8%	82.2%	3.4%

Red font indicates Library is candidate for consolidation.
No data is available for the Wisconsin Historical Society which houses the UW-Madison collection on North American History.
No data is available for Health Sciences which is assumed to remain as configured in the planned reconfiguration.

Table 2 - Anticipated Collection Growth

This is a baseline for determining future total storage capacity needs. Growth is calculated for each Library from FY2016 "Items Added", converted to LF at 12 vol/lf of shelving, extrapolated 20 years at an annual reduction in acquisitions of 2%.

LIBRARY	"2017 Occupied" (in linear feet)	Items Added in FY2016	Additions in 2016 @12vol/LF	Additions over 20 years in LF @12vol/LF	Total collection, after 20 yrs in LF @ 12 vol/lf	% Growth
TOTALS-LIBRARIES	447,878	53,451	4,454	78,807	526,685	17.6%
Astronomy	1,198	83	7	115	1,313	9.6%
Business	1,458	748	62	1,036	2,494	71.1%
College	1,828	0	0	0	1,828	0.0%
Geography	3,877	199	17	275	4,152	7.1%
Geology	3,379	538	45	745	4,124	22.1%
Kohler Art	16,163	2,935	245	4,065	20,228	25.1%
Math	3,998	542	45	751	4,749	18.8%
Memorial	316,353	39,307	3,276	54,439	370,792	17.2%
MERIT	5,850	1,898	158	2,629	8,479	44.9%
Mills Music	14,038	2,142	179	2,967	17,005	21.1%
Physics	4,834	218	18	302	5,136	6.2%
Social Science	444	26	2	36	480	8.1%
Social Work	2,116	188	16	261	2,377	12.3%
Special Collections	24,596	1,205	100	1,669	26,265	6.8%
Steenbock	12,831	2,726	227	3,775	16,606	29.4%
University Archive	31,350	400	33	5,333	36,683	17.0%
Wendt	3,565	296	25	410	3,975	11.5%
Law Library data is available but is grouped separately with Ebling as part of a Professional Schools group within the System						
Law	26,456	6,837	570	9,469	35,925	35.8%

No data is available for the Wisconsin Historical Society which houses the UW-Madison collection on North American History. No date is available for the Professional Libraries; Law and Health Sciences.

Table 3 - Anticipated "Typical" Withdrawals
This is a baseline for determining future total storage capacity needs

	W2013	W2014	W2015	W2013-2015	% of 2013-2015 Total		W2016
			Shared Print Project Era				
			Pre-ALMA Data				
Library							
TOTALS- GLS LIBRARIES							
Items	17,567	15,206	65,790	98,563	100.0%		788,313
LF	1,464	1,267	5,483	8,214			65,693
							11.4%
			Items			LF	Items
Astronomy	1	251	70	322	0.3%	9	
Business	384	633	703	1,720	1.7%	48	
College	5,167	1,395	24,140	30,702	31.1%	853	
Geography	709	1,314	3,459	5,482	5.6%	152	
Geology	82	549	149	780	0.8%	22	
Kohler Art	149	254	197	600	0.6%	17	
Math	22	34	562	618	0.6%	17	
Memorial	5,939	4,457	22,731	33,127	33.6%	920	
MERIT	0	0	0	0	0.0%	0	
Mills Music	1,977	592	983	3,552	3.6%	99	
Physics	258	317	1,608	2,183	2.2%	61	
Social Science	0	0	0	0	0.0%	0	
Social Work	710	1,130	2,248	4,088	4.1%	114	
Special Collections	0	0	0	0	0.0%	0	
Steenbock	1,971	1,549	4,403	7,923	8.0%	220	
University Archive	0	0	0	0	0.0%	0	
Wendt	198	2,731	4,537	7,466	7.6%	207	

Only partial data is available. Total is to date.

No data is available for the Wisconsin Historical Society which houses the UW-Madison collection on North American History.
No date is available for the Professional Libraries; Law and Health Sciences.

Table 4 - Net Anticipated Collection Size

This is a baseline for determining future total storage capacity needs. Growth is calculated for each library from FY2016 "Items Added", converted to LF at 12 vol/lf of shelving, extrapolated 20 years at an annual reduction in acquisitions of 2%.

LIBRARY	"2017 Occupied"	Additions over 20 yrs. LF@12vol/LF	Typical Withdrawals over 20 yrs. LF@12vol/LF	Special Project Withdrawals over 20 yrs. LF@12vol/LF	FUTURE COLLECTION LF@12 vol/lf, 100% fill rate
TOTALS-LIBRARIES	447,878	78,807	31,328	32,846	462,510
Future Collection with Special Project Withdrawals based on 2016 to efforts date:				*65,693*	7.3% Growth
Prorated at				*50%*	
			Future Collection without Special Project Withdrawals:		495,356

Straight line component collection approximations based on current collection ratios (column B x/ column B total), College Library held constant

LIBRARY					
Astronomy	1,198	115	149	88	1,076
Business	1,458	1,036	794	107	1,593
College	1,828	0	0	0	1,828
Geography	3,877	275	2,531	285	1,336
Geology	3,379	745	360	249	3,515
Kohler Art	16,163	4,065	277	1,190	18,760
Math	3,998	751	285	294	4,169
Memorial	316,353	54,439	15,293	23,296	332,203
MERIT	5,850	2,629	0	431	8,048
Mills Music	14,038	2,967	1,640	1,034	14,331
Physics	4,834	302	1,008	356	3,772
Social Science	444	36	0	33	447
Social Work	2,116	261	1,887	156	334
Special Collections	24,596	1,669	0	1,811	24,453
Steenbock	12,831	3,775	3,658	945	12,004
University Archive	31,350	5,333	0	2,309	34,375
Wendt	3,565	410	3,447	263	266

No data is available for the Wisconsin Historical Society which houses the UW-Madison collection on North American History. No date is available for the Professional Libraries; Law and Health Sciences.

Physical Collection Use

Use of the physical collection comes in multiple forms including loans (circulations) and browses for the circulating collection and loans for the reserve materials. Data from the campus Libraries indicates that a small portion of the existing physical holding represent the majority of circulations. Over the past 11 years, 25% of the collection driven all of the circulation transactions; 11% of the collection has driven 80% of the circulation transactions. The source for this data is (http://web.library.wisc.edu/sp/cca/loans-per-year.html)

Table 5: Circulation Transactions per Year, 2006-2016, All Campus Libraries

VOLUMES	Circulated x times	Totaling x loans over the past 11 years	Representing x% of the total circulations.	And x% of the circulating collection
5,622,818	0	0	0%	75.14%
1,689,182	<1	2,840,259	53.3%	97.67%
146,809	~1	1,264,567	77.03%	99.86%
14,123	~2	291,543	82.50%	99.86%
6,556	~3.5	251,417	87.22%	99.95%
2,215	~6-10	182,652	90.64%	99.98%

Figure 1: Graph of Circulation Transactions per Year, 2006-2016, All Campus Libraries
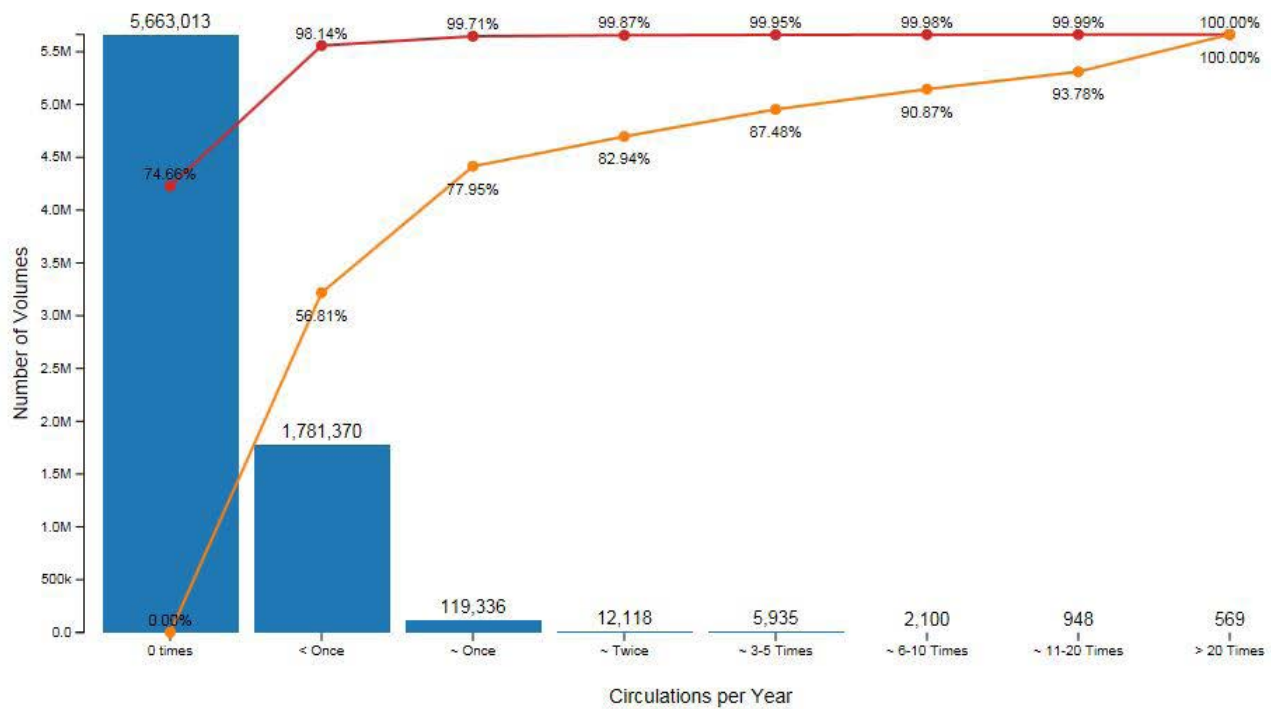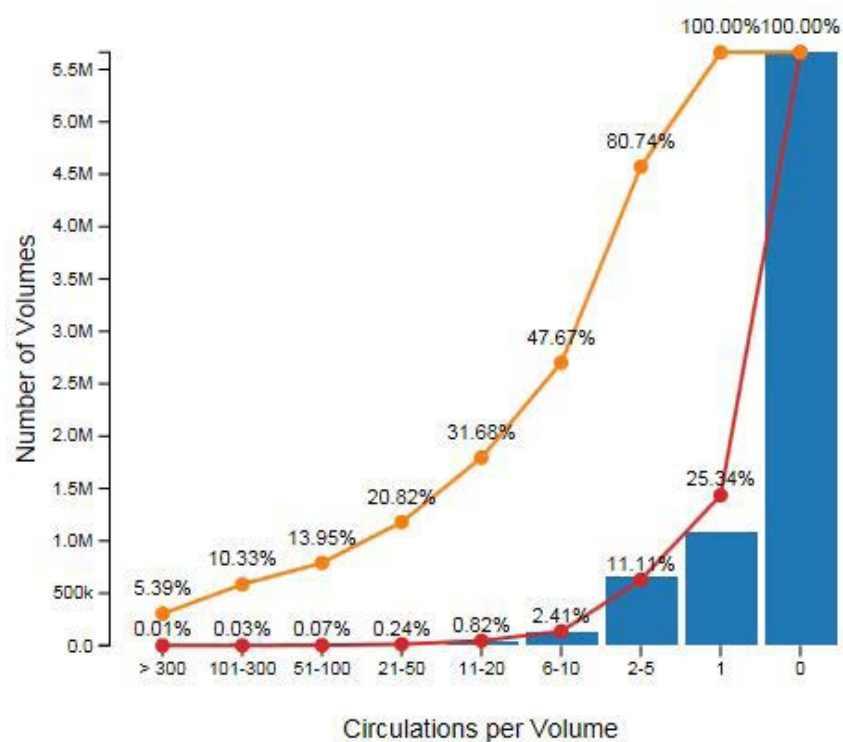
Figure 2: Graph of Circulations per Volume, 2006-2016, All Campus Libraries

A2.3 COLLECTION ENVIRONMENTS

A set of models was developed based on service trends, the UW-Madison "experience" and best practices in support of user access to collections that came together in a set of collection goals.

Goals

The primary service trend for collections is to acknowledge the use patterns in evidence at UW-Madison and peer institutions over that past ten or more years: use of the print collection is shrinking; more materials are available in digital format each year; collection storage is less expensive to maintain in high density, off campus facilities; on-campus collections are arranged in easy to browse shelving environments; special collections are of highest value and warrant proper, preservation grade environmental controls.

1. Protect the rare and valuable physical items in space with suitable temperature, humidity, and access control.
2. Present highest use items in an attractive, easy to access/browse arrangement of low ranges, wide aisles, easy to reach shelves with proper lighting, signage and display systems.
3. Collections should be logically integrated into full service "hub" libraries to support various focused and interrelated areas of discovery, teaching and learning. Effective distribution of collections is different than uniform distribution: collection formats and use patterns differ across disciplines.
4. Store infrequently used items in a high density, off-campus facility (or facilities) with proper environmental controls, accessed via robust, user-friendly on-line search features, and responsive (timely) retrieval systems and procedures

Shelving environments within the libraries range from fairly effective high-density storage to minimally effective browsing collections. Factors that play into efficiency relate to the intended purpose: efficient browsing environments are different than efficient storage environments. The libraries need both to be efficient.

An efficient browsing environment includes low ranges, wide aisles, easy to reach shelves with proper lighting, signage and display systems. It takes about 670 square feet of floor space to accommodate 1,000 liner feet of collection* in a best practice browsing environment. Browsing collections in a best practice environment consist of shelving ranges with a maximum height of 84 inches, with 6 selves per shelving section, including the base,

arranged in double faced units with a 42" wide aisle, and 60" end- and cross- aisles resulting in a space allocation of 24 square feet per double faced section. Ranges should not exceed 6 sections in length. Lower height ranges (with fewer shelves) should be considered in certain areas and are required in periodical collections for accessibility.

An efficient high-density storage environment has mobile compacting shelving units arranged to support multiple formats arranged based on size rather than content. Verona is the most efficient storage arrangement within the campus library system. It takes approximately 104 square feet of storage space at Verona to house 1,000 linear feet of collection*. Mechanical systems and building enclosures (walls, roofs) in effective collection storage facilities should be designed to manage temperature and humidity levels needed to preserve a variety of materials including paper and film. While Verona has a good system of compact shelving, it lacks the mechanical system controls and vapor retarders/insulation needed to protect rare or valuable items from physical degradation over time due to repeated shifts in temperature and humidity.

Much of the current collections are essentially compressed into some form of higher capacity arrangement. Some of this is purpose built space (1953 stack block and 1988 compact storage at Memorial Library) and some was browsing space that has been morphed into higher capacity storage out of necessity (many locations).

Figure 3: Area Required by Shelving Environment to House 1,000 Linear Feet of Collection*
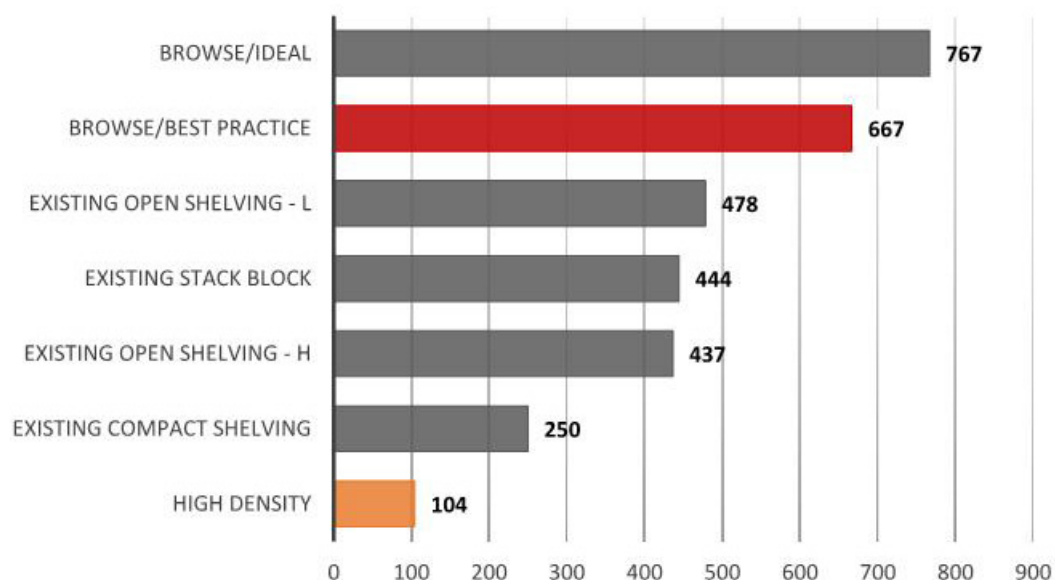
- Browse/Ideal (light gray) includes additional area for display, great use of shelving ranges lower than 84" in height, and wider main aisles.
- Browse/Best Practice (cardinal) includes a smaller area of display. It is recommended as the "browsing environment" for the Campus Libraries across all facilities.
- Existing Open Shelving – L (low end of existing conditions), Existing Stack Block, Existing Open Shelving -H (high end of existing conditions, and Existing Comat Shelving are all conditions found at Memorial Library (dark gray). With the exception of Existing Compact Shelving, these are all intended as browsing environments. All are "self-service" environments, no staff mediation is required to access the materials shelved.
- High Density is the Verona shelving environment. This is not "self-service.
- The baseline shelving need is expressed in linear feet of shelving assuming that the collection is arranged at 12 volumes per linear foot and each shelf is filled to 100% of its length. All existing Memorial Shelving is arranged in this format. Best practice browsing environment is 10 volumes per linear foot and an 85% fill rate on each shelf. Ideal browsing environment is 10 volumes per linear foot and a 70% fill rate on each shelf.
-

UW-Madison | Campus Libraries Facilities Master Plan

Options

The area needs of collection management (browsing and storage) for the libraries was modeled at 5 different levels. All options presume a collection reflecting a 20-year net growth of 6.9% over current levels. Calculations are summarized below. The preferred scenario reflects the actual print collection use data above as well as peer practices targeting certain on-site collection counts. These led to a set of on-site goals for each subject group (as defined by the current library structure). A composite for the hub library structure was developed from these individual targets.

Table 6: Browsing Collections On-Campus by Discipline

An overall assessment of the need for on campus browsing collection has limitations. Collection use patterns vary by the nature of the disciplines supported by those collections. A differentiation between humanities and sciences is useful and provides a level of detail needed to assess hub library space needs as well as an overall system space need for browsing collections.

Percentage of Collection on Campus, Best Practice based on Subject Area.

LIBRARY	Total Collection	Collection % On Campus	ALL HUB LIBRARIES	MEMORIAL Hub Library	STEENBOCK Hub Library	SOUTH Hub Library
Collection in LF	544,129		125,694	102,926	7,654	12,963
% of Collection			23.10%	18.92%	1.41%	2.38%
Area SF = LF/1.5			83,800	68,600	5,100	8,600
Astronomy	1,266	10%	108		108	
Business	1,874	50%	937			937
College	2,151	100%	2,151			
Geography	1,572	50%	786		786	
Geology	4,136	50%	2,068			2,068
Kohler Art	22,071	50%	11,036	11,036		
Math	4,905	100%	4,905		4,905	
Memorial	390,827	15%	58,624	58,624		
Merit	9,468	100%	9,468			9,468
Mills Music	16,860	100%	16,860	16,860		
Physics	4,438	10%	444		444	
Social Science	526	50%	263			263
Social Work	392	50%	196			196
Special Collections	28,769	50%	14,384	14,384		
Steenbock	14,122	10%	1,412		1,412	
University Archive	40,441	5%	2,022	2,022		
Wendt	313	10%	31			31

- All Collection numbers based on 12 volumes per linear foot at a 85% fill rate.)
- Law and Health Sciences are not included, collection data is not available.
- Existing collection and Special Collection areas are added back into Memorial for area total

Table 7: Area Calculations for Ideal On-Campus Browsable Collection

	TOTAL 20 YEAR COLLECTION LF @ 12 VOLUMES PER LF		
	100% FILL RATE	**85%** FILL RATE	**70%** FILL RATE
Total Need from Table 4	462,510	462,510	462,510
Preferred "Open Shelving" Collections (%)	23.10%	**23.10%**	23.10%
Preferred "Open Shelving" Collections (LF)	106,840	106,840	106,840
Capacity Needed in Storage Facilities (LF)	355,670	355,670	355,670
Existing Storage Facility Capacity (100% Fill Rate)			
SLSF (LF)	21,828	21,828	21,828
Verona (LF)	96,166	96,166	96,166
Total Existing (LF)	117,994	117,994	117,994
Additional Storage Needed (LF)	237,676	237,676	237,676
Additional Storage Needed (SF) (Verona 2)	24,758	**24,758**	24,758
Preferred "Open Shelving" Collections (LF)			
(LF@12vol/lf, 100% Fill Rate)	106,840	106,840	106,840
Best Practice (LF@10vol/lf, 85% Fill Rate)	128,208	150,833	183,155
"Open Shelving" w/Fill Rate of:	100%	**85%**	70%
Area Required in Hubs:			
Collection to be stored on "Open Shelving" (LF)	128,208	150,833	183,155
Area Needed on Campus (SF) for Physical Collections			
Minimum: 21 SF per double faced (DF) shelving unit	74,788	87,986	106,840
Best Practice: 24 SF per DF shelving unit	85,472	**100,555**	122,103
Ideal Practice: 27.6 SF per DF shelving unit		115,639	

Table 8: Summary of Collection Space Allocations with Specific On-Campus Browsing Collections

Browsable shelving on campus	50%	40%	33%	25%	**23.1%**	20%	15%	10%
On-Campus Collection Size*	217,652	174,121	143,650	108,826	100,555	87,061	65,296	43,530
Capacity Needed in Storage*	231,255	277,506	309,882	346,882	355,670	370,008	393,133	416,259
Existing Storage Capacity*								
SLSF	21,828	21,828	21,828	21,828	21,828	21,828	21,828	21,828
Verona	96,166	96,166	96,166	96,166	96,166	96,166	96,166	96,166
Total Existing	117,994	117,994	117,994	117,994	117,994	117,994	117,994	117,994
Additional Storage Needed (LF)*	113,261	159,512	191,888	228,888	237,676	252,014	275,139	298,265
Additional Storage Needed (SF)*	11,798	16,616	19,988	23,843	**24,758**	26,251	28,660	31,069
Collection Area Required On-Campus								
Capacity in LF (85% Fill Rate)	326,478	261,182	215,475	163,239	150,833	130,591	97,943	65,296
Area in SF (24 SF/DF Section)	217,652	174,121	143,650	108,826	100,555	87,061	65,296	43,530
Change from Existing (312,000 SF)	-94,448	-137,979	-168,450	-203,274	-211,545	-225,039	-246,804	-268,570
On-Campus Area Change (%)	-30.3%	-44.2%	-54.0%	-65.1%	**-67.8%**	-72.1%	-79.1%	-86.1%
Space Need by Category (Existing sf)								
Collections @ Hubs (312,100 sf)	217,652	174,121	143,650	108,826	100,600	87,061	65,296	43,530
Collections @ Law & HS (40,100 sf)	40,100	40,100	40,100	40,100	40,100	40,100	40,100	40,100
User Space (280,000 sf)	263,800	263,800	263,800	263,800	263,800	263,800	263,800	263,800
Partner Space (19,300 sf)	65,000	65,000	65,000	65,000	65,000	65,000	65,000	65,000
Public Space (29,000 sf)	43,900	43,900	43,900	43,900	43,900	43,900	43,900	43,900
Staff Space (113,900 sf)	51,900	51,900	51,900	51,900	51,900	51,900	51,900	51,900
On-Campus Total Area (795,200 sf)	682,352	638,821	608,350	573,526	565,300	551,761	529,996	508,230
Change from Existing in SF	-112,848	-156,379	-186,850	-221,674	-229,900	-243,439	-265,204	-286,970
On Campus Area Change (%)	-14.2%	-19.7%	-23.5%	-27.9%	**-28.9%**	-30.6%	-33.4%	-36.1%
Remote Storage Area (Existing sf)								
Science Library Shelving (11,500 sf)	11,500	11,500	11,500	11,500	11,500	11,500	11,500	11,500
Verona Shelving (10,000 sf)	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000
Middleton Shelving (5,400 sf)	0	0	0	0	0	0	0	0
New Preservation Storage	11,800	16,600	20,000	23,800	24,800	26,300	28,700	31,100
Remote Storage Total (26,900 sf)	33,300	38,100	41,500	45,300	46,300	47,800	50,200	52,600
Change from Existing in SF	6,400	11,200	14,600	18,400	19,400	20,900	23,300	25,700
Remote Storage Area Change (%)	24%	42%	54%	68%	**72%**	78%	87%	96%
Total System Area in SF	715,652	676,921	649,850	618,826	611,600	599,561	580,196	560,830
Change from Existing in SF	-106,448	-145,179	-172,250	-203,274	-210,500	-222,539	-241,904	-261,270
Total System Change (%)	-12.9%	-17.7%	-21.0%	-24.7%	**-25.6%**	-27.1%	-29.4%	-31.8%

* Capacity is calculated in linear feet (LF) at 12 volumes per linear feet, 100% fill rate.

Recommendation

The recommended overall percentage of the projected physical collection to be presented in a browsable, on campus environment is **23.1%**. It maintains an on-campus collection that can support the full range of materials loaned in the last 10-plus years; it maintains an accessible physical collection that supports serendipitous discovery, supports browsing, and provides an environment that users describe as inspiring and supportive of focused scholarly activity. It allows considerable consolidation into cost effective storage facilities that offer superior environments controls for major portions of the collection. This in turn supports management of the collection and rapid delivery of stored materials to users. These improvements in service are accompanied by reductions in total and on-campus collection space needs.

A2.4   SPACE NEEDS

Collection needs represent a major component of the overall space needed to support the Library system. On campus spaces to support users, partners, and public functions are higher uses of space than storage of infrequently accessed materials. Using the recommended on-campus browsing collection, and user space needs defined in other parts of this master plan, a series of space needs were developed for the entire campus. A corresponding space need for off-campus collection storage supplements the on-campus space.

Table 9 below identifies the overall vision program, divided between the Hub Libraries and the Professional School Libraries of Law and Health Sciences. **Table 10** further breaks down the space program between all six of the libraries within the proposed campus library system.

Table 9: Overall Space Need with 23.1% of Collection Browsable On-Campus

	Existing	VISION PROGRAM			Change from Existing	
		Hubs	Law & HS	Total	in SF	%
Collections	327,000	100,600	40,100	140,700	-186,300	-57%
User Space	270,000	227,000	36,800	263,800	-6,200	-2%
Partner Space	29,000	65,000	0	65,000	36,000	124%
Public Space	15,800	41,500	2,400	43,900	28,100	178%
Staff Space	113,900	37,200	14,700	51,900	-62,000	-54%
Total, On-Campus	**755,700**	**454,434**	**94,000**	**548,400**	**-190,400**	**-25%**
Storage- SLSF	11,500	11,500	0	11,500	0	0%
Storage- Middleton	10,000	10,000	0	10,000	0	0%
Storage- Verona	5,400	0	0	0	-5,400	-100%
Storage- Preservation	0	24,800	0	24,800	24,800	
Total, Storage	**26,900**	**46,300**	**0**	**46,300**	**19,400**	**72%**
TOTAL SYSTEM	**782,600**	**500,734**	**94,000**	**594,700**	**-171,000**	**-22%**
Seats- User		6,486	1,051	7,537		
Seats- Partner		929	0	929		
TOTAL SEATS	**8,400**	**7,414**	**1,051**	**8,466**	**66**	**0.78%**

Table 10: On-Campus Space Distribution within Hub Libraries

	VISION	HUB LIBRARIES Memorial	College	Steenbock	South Hub	PROFESSIONAL Law	Health
Collections	140,700	85,300	1,600	5,100	8,600	30,300	9,800
User Space	263,800	67,000	67,500	35,300	57,200	15,900	20,900
Partner Space	65,000	29,000	13,500	16,000	6,500	0	0
Public Space	43,900	22,950	7,500	8,100	2,900	850	1,600
Staff Space	51,900	25,450	3,800	4,000	4,000	7,650	7,000
Total, On-Campus	**548,400**	**229,700**	**93,900**	**68,500**	**79,200**	**54,700**	**39,300**
Existing		322,000	93,900	66,600		54,700	39,300
Change in SF		-92,300	0	1,900	79,200	0	0
Change in %		**-29%**	**0%**	**3%**		**0%**	**0%**
Seats- User	7,537	1,914	1,929	1,009	1,634	454	597
Seats- Partner	929	414	193	229	93	0	0
TOTAL SEATS	**8,466**	**2,329**	**2,121**	**1,237**	**1,727**	**454**	**597**

Table 11: Space Use as Percentage of System Total

	VISION	HUB LIBRARIES Memorial	College	Steenbock	South Hub	PROFESSIONAL Law	Health
Collections	100%	61%	1%	4%	6%	22%	7%
User Space	100%	25%	26%	13%	22%	6%	8%
Partner Space	100%	45%	21%	25%	10%	0%	0%
Public Space	100%	52%	17%	18%	7%	2%	4%
Staff Space	100%	49%	7%	8%	8%	15%	13%
Seats- User	100%	25%	26%	13%	22%	6%	8%
Seats- Partner	100%	45%	21%	25%	10%	0%	0%
TOTAL SEATS	100%	28%	25%	15%	20%	5%	7%

Table 12: Space Use within Libraries by Percentage

		HUB LIBRARIES Memorial	College	Steenbock	South Hub	PROFESSIONAL Law	Health
Collections		37%	2%	7%	11%	55%	25%
User Space		29%	72%	52%	72%	29%	53%
Partner Space		13%	14%	23%	8%	0%	0%
Public Space		10%	8%	12%	4%	2%	4%
Staff Space		11%	4%	6%	5%	14%	18%
		100%	100%	100%	100%	100%	100%