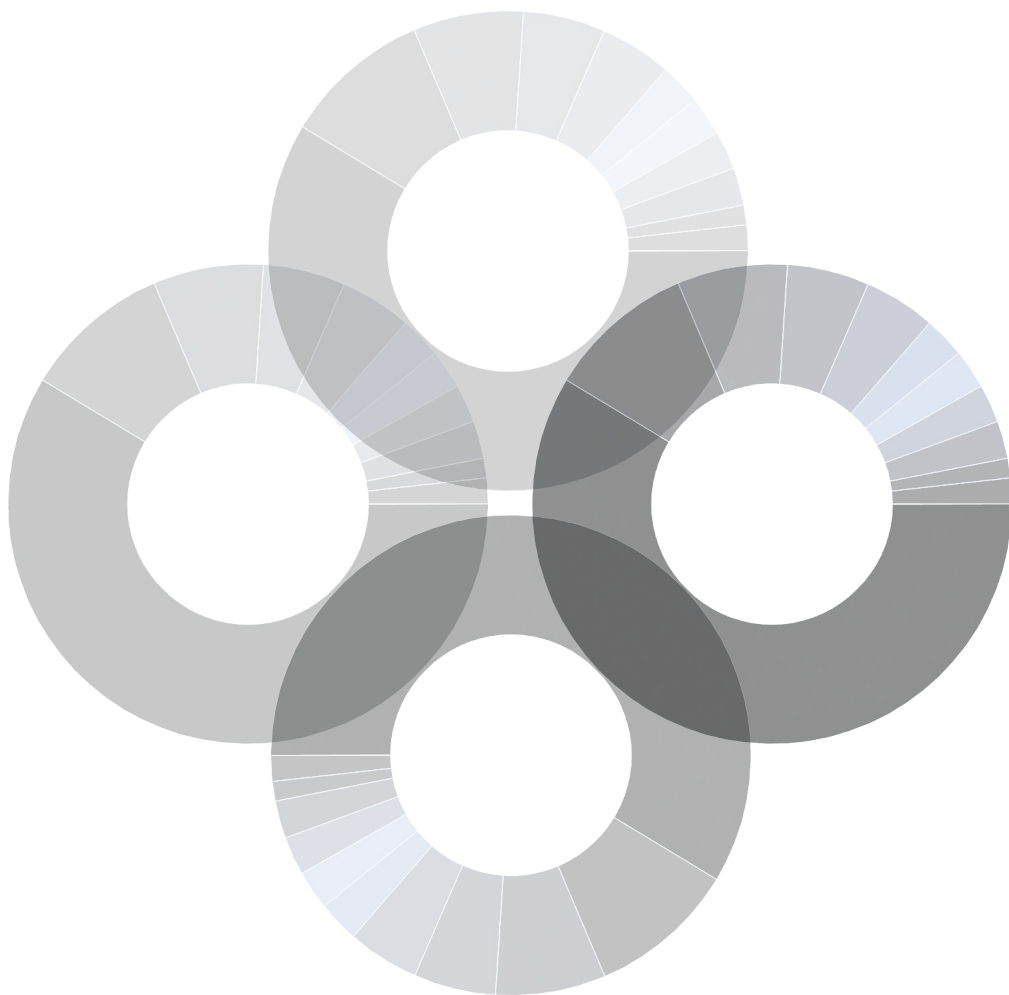


PENNLibraries Selected Facts

2023





Key Take-aways

THE COVID-19 CLOSING AND RECOVERY

In the final quarter of fiscal 2020, at the height of the spring term, the COVID-19 outbreak forced the depopulation of Penn's campus and a sudden switch to online learning for some 25,000 students. The impact remains evident in many of our key statistics, but 2023 data are showing a return to pre-pandemic service. Much of Penn's worklife has transitioned to hybrid conditions which is observable in in-building activity to some extent.

FROM DIGITAL CONVERSION to DIGITAL TRANSFORMATION

For two decades, libraries and their users have navigated the large-scale conversion of scholarly information from print to digital with the point of access moving from the physical library to the web. This has fueled a steady decline in the use of print materials and an upward spiral in digital use. Notable evidence of this shift is documented in Figure 8, in the adjacent chart comparing e-book and print circulation. and in patterns of spending on Page 13.

Further indicators of digital transformation, dovetailing with the COVID-19 experience, are evident in the growing use of the Canvas Learning Management System, with large long-term increases from several schools.

THE GLOBAL REACH

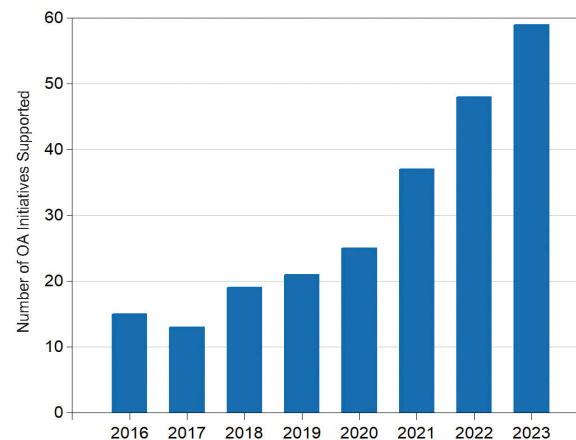
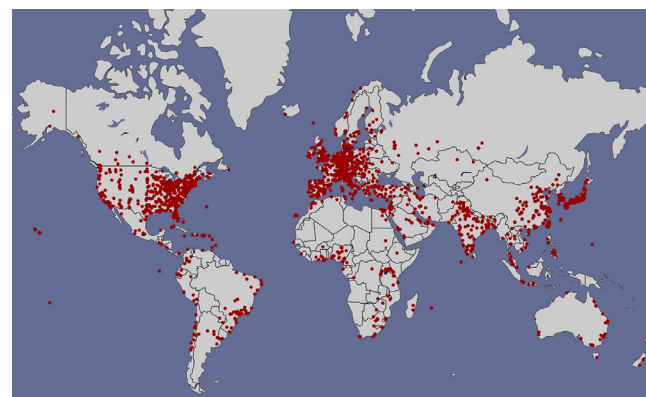
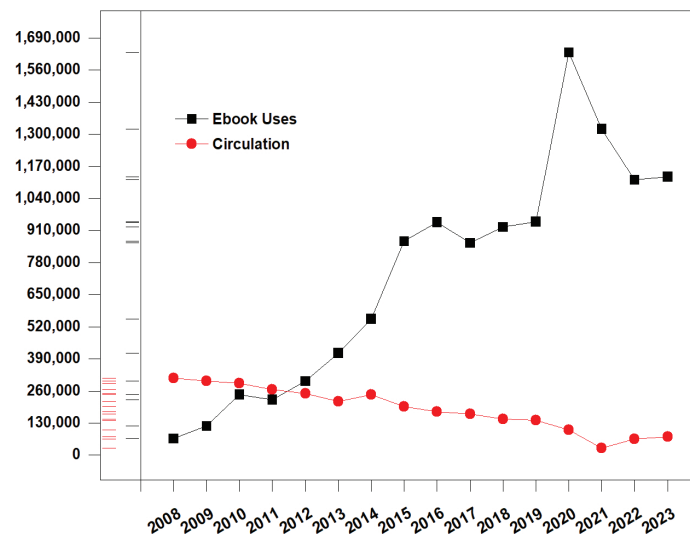
The Libraries' publications repository, the ScholarlyCommons signals a world-wide interest in Penn research. Users from 50,000 locations world-wide and from more than 50 institutions downloaded more than 3.5 million articles by Penn authors in 2023. And no wonder, given the world-wide co-authoring network of Penn researchers (see Figure 53). The Libraries' resource sharing services continues to serve a strong global audience (see Figure 29); and an increasing focus on globalization at Penn has become the impetus for creating a Global Studies Center in the main Library, showcasing our strengths in Area Studies and the vast scope of languages in Penn's historic collections.

POSITION of STRENGTH

Figures 38-41, document the Libraries rise in the ranks of the country's largest research institutions. While many within this select group began facing budget challenges before COVID-19, the pandemic has exacerbated downward trends in spending among our peers, even those with historically greater finances than Penn. The charts on Page 16 indicate the Penn Libraries has weathered financial challenges successfully and is positioned to address the challenges of service continuity but funding for new roles, changing professional competencies, and emergent services, along with the heady challenges of digital transformation.

OPEN ACCESS

At various points in the Selected Facts, attention falls on Open Access as a critical priority for scholarly communication and Penn's research establishment. Governmental mandates are poised to impact both research and publishing within two years. With data we have attempted to capture our position heading toward an open future, which includes engagements with publishers, financial stewardship, and services focused on authors and research compliance.



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Milestones in the History of the Libraries	19
Principal Advisors, Sources and Notes		



EVERY
2.3
seconds

a user begins
a session with a Library
resource online

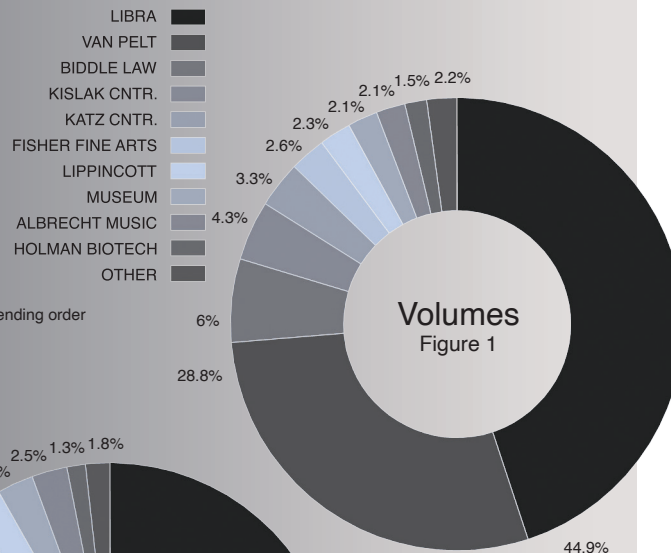


Access this publication online through the Penn Libraries' MetriDoc service, <http://metridoc-rails.library.upenn.edu>. The Selected Facts is a publication of the Division of Impact Assessment and Organizational Analysis at the Penn Libraries.

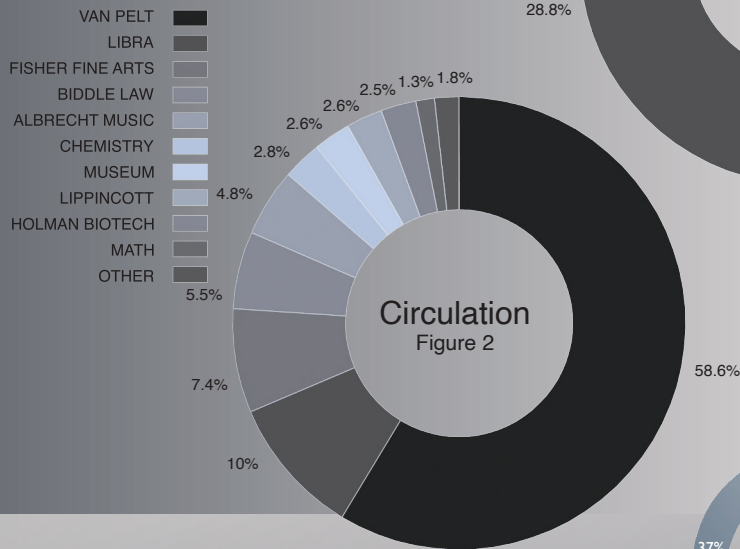
The Libraries at a Glance



FY2023



The data labels follow the charts in descending order



SPACE PROFILE

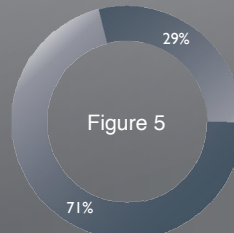
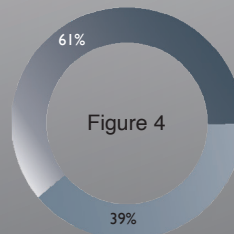
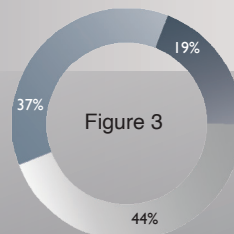
In 2020, total library seating accommodated roughly **18% of Penn's 22,376 students**. This approximates the norm for residential university campuses, 20%.†

Figure 3. The allocation of the total library space – 502,526 net square feet – by three principal priorities: collections (44%), users (37%), and staff (19%). Stack space is divided between general collections at 82% and special collections at 18%.

Figure 4. Key categories of user space: quiet study (39%) and collaborative facilities (61%).

Figure 5. Division of total space into stand-alone library facilities (71%) – dominated by the main library, Van Pelt-Dietrich – and school-managed buildings (29%).

† Figure cited in the 2018 Space Assessment Study by CannonDesign Assocs.



Annenberg

Circulation	59
Volumes	9,708
Visitors	na
Net Sq. Ft.	3,009
Computers	9
Seating	54
Permanent Staff	3.0



Biddle Law

Circulation	5,414
Volumes	399,403
Visitors	na
Net Sq. Ft.	66,466
Computers	45
Seating	623
Permanent Staff	29.3



Levy Dental Library

Circulation	263
Volumes	37,116
Visitors	65,828
Net Sq. Ft.	6,315
Computers	26
Seating	102
Permanent Staff	3.0



Education Commons

Circulation	51
Volumes	na
Visitors (est.)	na
Net Sq. Ft.	5,692
Computers	38
Seating	168
Permanent Staff	2.6



Math/Phys/Astronomy

Circulation	1,138
Volumes	28,548
Visitors	28,028
Net Sq. Ft.	3,416
Computers	6
Seating	45
Permanent Staff	2.0



Museum Library

Circulation	2,288
Volumes	143,126
Visitors	24,066
Net Sq. Ft.	14,037
Computers	10
Seating	175
Permanent Staff	2.0

Library Research Annex

Circulation	8,631
Volumes	3,010,043
Visitors	na
Net Sq. Ft.	48,531
Computers	1
Seating	24
Permanent Staff	9.0

Totals

Circulation	88,671
Volumes	6,701,416
Visitors	1,027,927
Net Sq. Ft.	502,526
Computers	677
Seating	4,153
Permanent Staff	325.0



Holman BioTech Commons

Circulation	2,156
Volumes	103,306
Visitors	127,822
Net Sq. Ft.	33,580
Computers	90
Seating	287
Permanent Staff	18.0



Katz Center

Circulation	404
Volumes	221,535
Visitors	178
Net Sq. Ft.	11,391
Computers	3
Seating	26
Permanent Staff	4.0



Chemistry

Circulation	2,427
Volumes	35,845
Visitors	46,250
Net Sq. Ft.	5,987
Computers	12
Seating	112
Permanent Staff	3.0

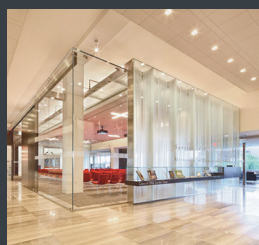
SERVICE EVENTS
43,900,465+

The University engages with its Libraries in a variety of ways. Every interaction with the Libraries' services, from consulting a journal online to accessing course reserves in Canvas to meeting with a subject specialist or attending a workshop or even checking out a book, can be traced to a computer system or a record of contact. These "service events" are quantifiable and reveal the breadth and magnitude of library services.



Fine Arts Library

Circulation	6,444
Volumes	173,303
Visitors	81,875
Net Sq. Ft.	24,447
Computers	23
Seating	375
Permanent Staff	8.5



Kislak Center

Circulation	1,003
Volumes	285,544
Visitors	na
Net Sq. Ft.	51,381
Computers	12
Seating	330
Permanent Staff	35.0



Lippincott Library

Circulation	2,241
Volumes	151,519
Visitors	na
Net Sq. Ft.	17,275
Computers	45
Seating	244
Permanent Staff	9.6

INFORMATION RESOURCES
281,265,041+

Through the Libraries vast digital and print collection, its resource sharing collaborations across the nation and the globe, and its on-going partnerships with publishers, millions of scholarly works are at the fingertips of Penn students, faculty, and staff. We stopped counting at a bit over 281 million.



Otto Albrecht Music Libr

Circulation	4,190
Volumes	140,056
Visitors	na
Net Sq. Ft.	6,331
Computers	14
Seating	45
Permanent Staff	6.5



Van Pelt Library

Circulation	51,418
Volumes	1,928,517
Visitors	517,252
Net Sq. Ft.	202,105
Computers	268
Seating	1,428
Permanent Staff	184.8



Steven Atwood Veterinary

Circulation	743
Volumes	33,847
Visitors	59,599
Net Sq. Ft.	5,473
Computers	35
Seating	115
Permanent Staff	4.6

UNIVERSITY ARCHIVES & RECORD CENTER
283 YEARS and COUNTING



Penn's 1884 varsity football team, group photograph, from the University Archives

The University Archives and Records Center delivers a unified archival and records management program for Penn and its Health System. Its collections embody the University's memory from its founding in 1750 to the present. In 2022, UARC made the administrative transition to the Penn Libraries as part of the Kislak Center for Special Collections, Rare Books and Manuscripts.

University Archives Holdings

Standard boxes	18,551
Non standard boxes	1,436

University Records Center

Standard boxes	129,800
E-records	8,000,000
Units served Penn-wide	612

Nota Bene:

- 1) Circulation totals include physical reserves.
- 2) Staff counts are in Full Time Equivalents.
- 3) Square footage is assignable space, excluding corridors, mechanical spaces, etc.



Digital Transformation of Collection Use

Fiscal 2023

Trend Index

DIGITAL ACCESS & USE

		FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23
1. E-reserve downloads via Canvas	147,957	na	1.00	2.4	3.3	5.70	7.00	14.5	13.3	13.5	15.6
2. E-journal Article downloads	10,459,958	1.00	1.08	1.19	1.13	1.21	1.33	1.31	1.24	1.36	1.63
3. E-Book uses (chapter views)	1,127,773	1.00	1.57	1.71	1.56	1.67	1.71	2.95	2.39	2.02	2.04
4. Repository articles/theses views	3,559,120	1.00	1.22	1.45	1.45	1.59	1.75	2.56	3.12	3.86	2.42

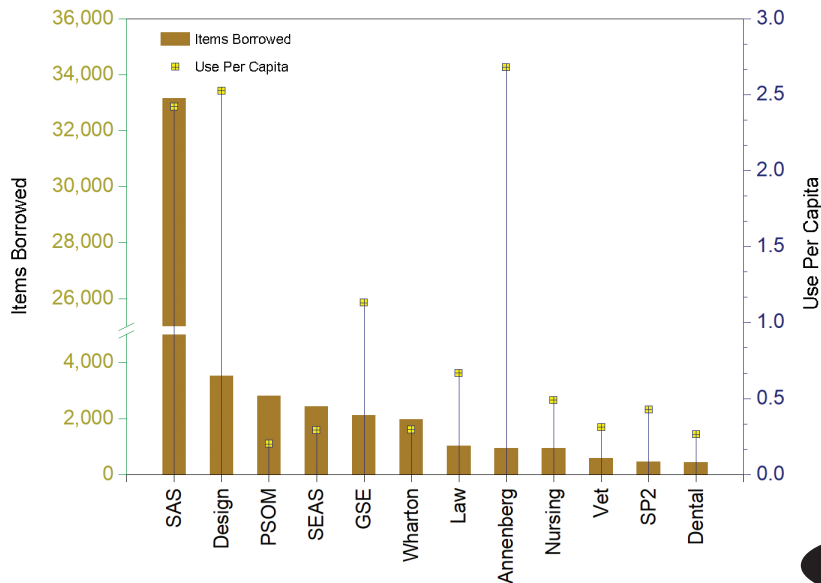
PHYSICAL COLLECTIONS | PENN & PARTNERS

		FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23
COVID19 lockdown											
5. All circulation from Penn locations	86,671	1.00	0.88	0.77	0.71	0.62	0.62	0.57	0.11	0.28	0.33
6. Print items circulated	73,673	1.00	0.92	0.82	0.77	0.70	0.67	0.49	0.13	0.31	0.35
7. Items circulated via interlending	74,174	1.00	0.99	0.96	0.89	0.84	0.85	0.72	0.44	0.41	0.40
8. Course reserves circulated (print)	3,608	1.00	0.93	0.73	0.70	0.75	0.76	0.55	0.02	0.08	0.14
9. Sound recordings circulated	3,275	1.00	0.70	0.56	0.57	0.52	0.84	0.47	0.15	0.22	0.44
10. Videos circulated	1,589	1.00	0.79	0.61	0.39	0.28	0.24	0.20	0.04	0.08	0.08
11. Laptop computers circulated	1,171	1.00	0.67	0.50	0.92	0.69	1.12	0.66	0.02	0.21	0.22
12. Other equipment	6,950	1.00	0.68	0.58	0.32	0.34	0.36	0.37	0.00	0.35	0.48

CIRCULATION BY RANK (excludes Biddle Law)

		FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23
13. Graduate Student	28,961	1.00	0.88	0.78	0.70	0.51	0.47	0.32	0.12	0.23	0.25
14. Undergraduate Student	16,877	1.00	0.81	0.63	0.54	0.38	0.36	0.25	0.04	0.17	0.19
15. Staff	13,484	1.00	0.92	0.89	0.79	0.46	0.43	0.32	0.12	0.30	0.32
16. Faculty	15,027	1.00	0.91	0.82	0.85	0.64	0.62	0.53	0.18	0.39	0.46
17. Faculty Express (in-office delivery)	6,256	1.00	0.92	0.95	0.97	0.77	0.82	0.69	0.19	0.33	0.35
18. Alumni & Courtesy	3,876	1.00	0.94	0.85	0.80	0.89	1.48	0.70	0.16	0.38	0.73
19. Graduate Carrels	1,824	1.00	0.98	0.82	0.87	0.65	0.65	0.43	0.02	0.23	0.23
20. Athenaeum partners	3,171	na	na	na	na	na	1.00	1.28	1.27	2.02	1.67
21. Other	1,966	1.00	0.88	1.24	1.42	2.14	185.9	1.18	0.23	0.49	0.49

Figure 6. Per Capita Use of Penn's Print Materials



Figures 7. Per Capita Use of Electronic Resources

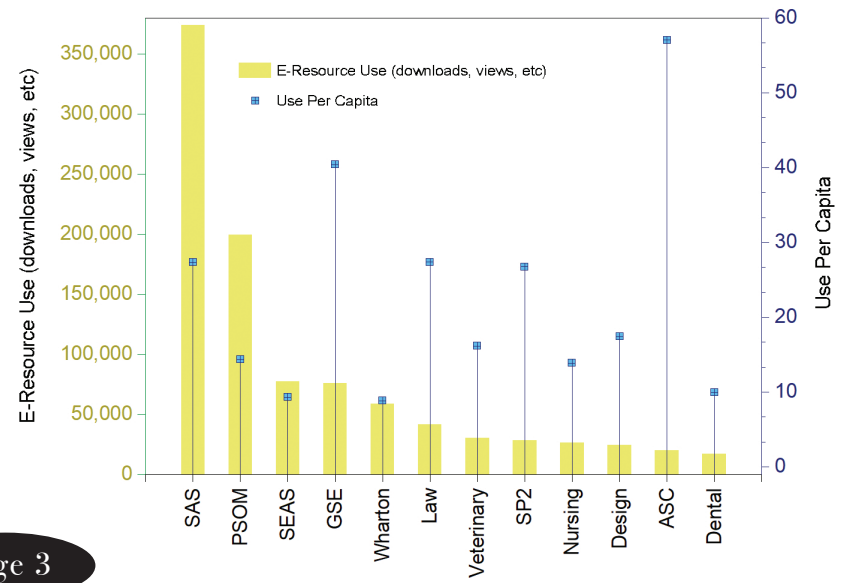


Figure 8. Digital vs Print Use: A Decade of Change

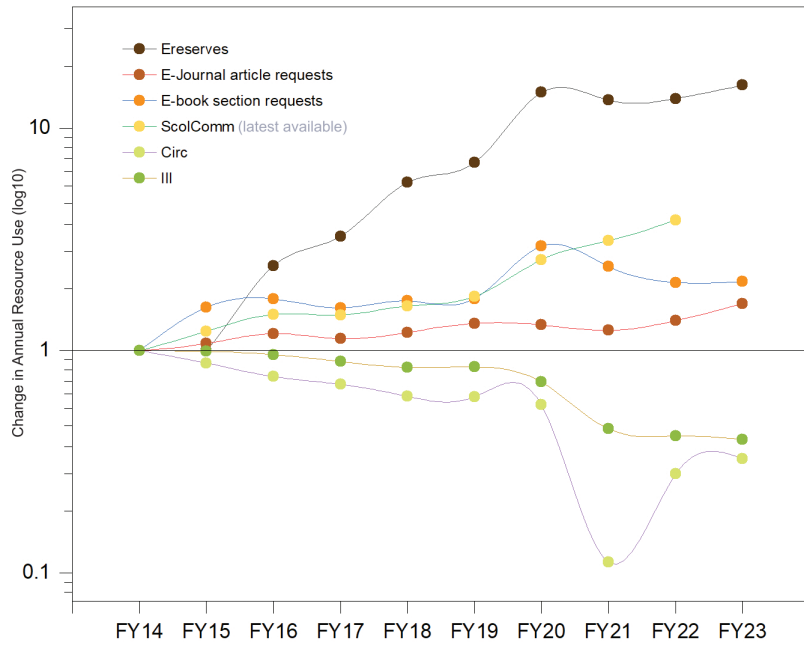


Figure 10. Circulation by School and Subject Cluster

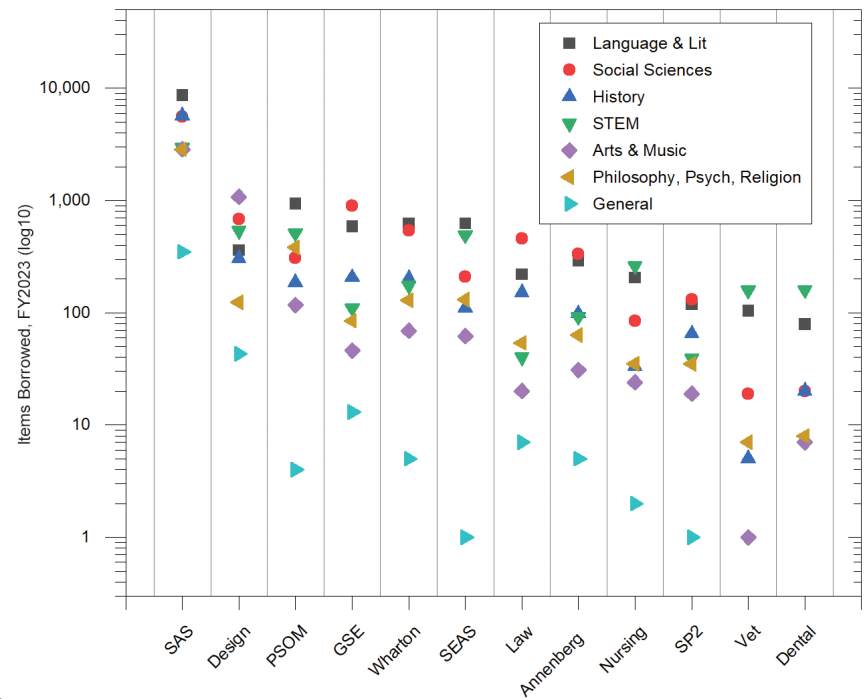
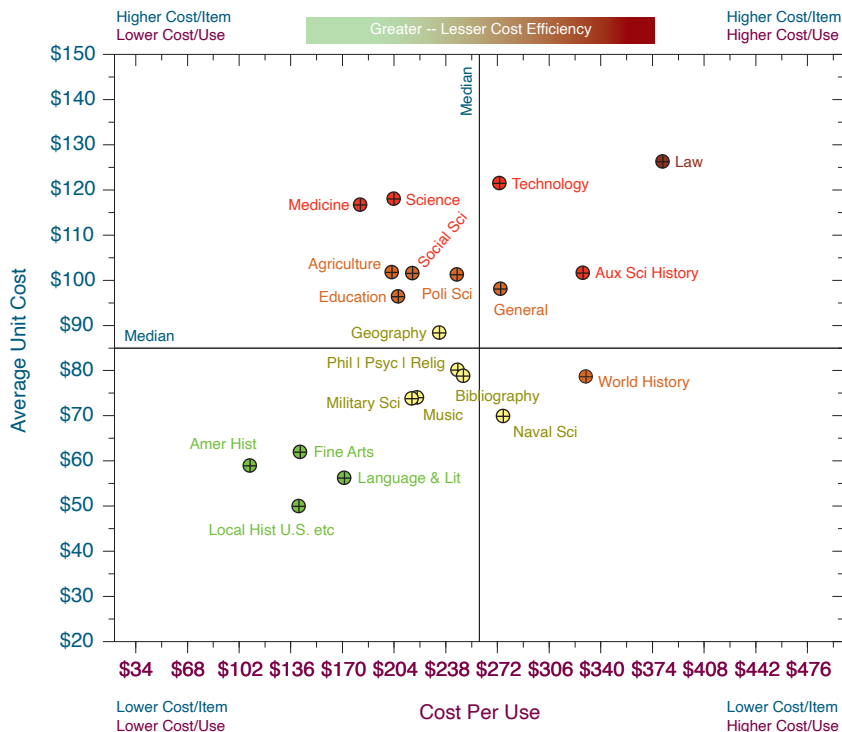


Figure 9. Cost/Use of Library Books by Subject Class (see the descriptive notes for this figure on page 13)



Downloads from various E-collections in 2023

11.6 M

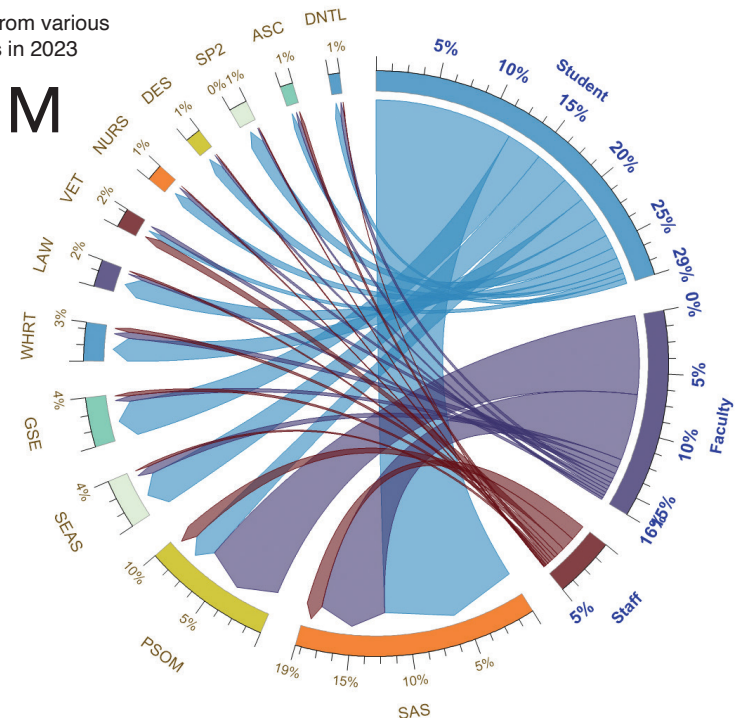


Figure 11. The Network of Electronic Resource Use

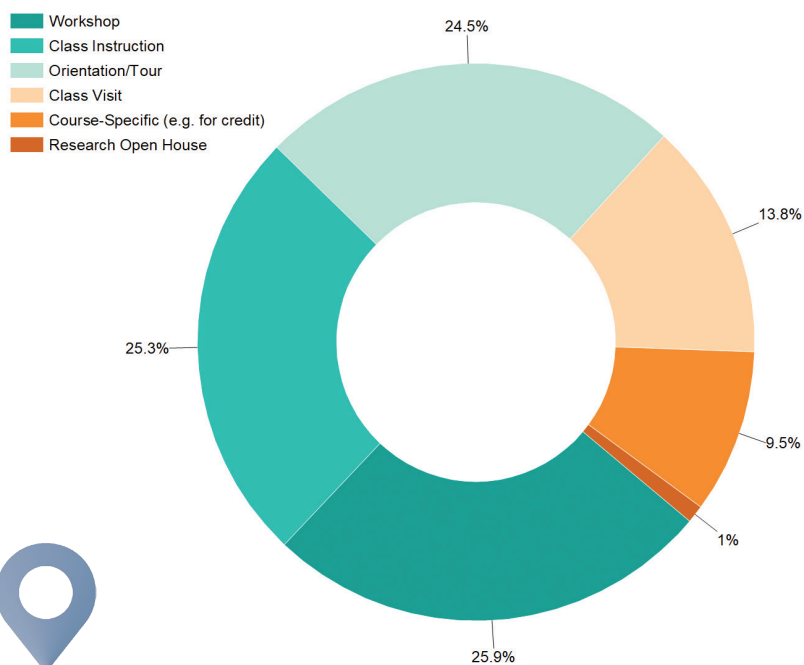
The graph illustrates the interconnections between people ranks and school affiliation – for example students and faculty of Arts and Sciences (SAS) – when it comes to accessing Penn’s extensive and heavily used digital collections.



Research & Learning Support

A succinct vision guides the Penn Libraries: To power Penn and better the world through the advancement of knowledge. That work takes many forms, from building collections and cooperative networks to designing work spaces for learning to consulting with scholars of every stripe in the research process and the dissemination of their research products around the world. To advance knowledge, the Libraries engage with many aspects of teaching and learning that point toward the changing nature of library service. This page contains measures illustrative of our evolving engagements and the need for research libraries generally to design new metrics that capture and inform the growing intersection of library service with the academic enterprise.

Figure 12. Types of Instructional Events 2023



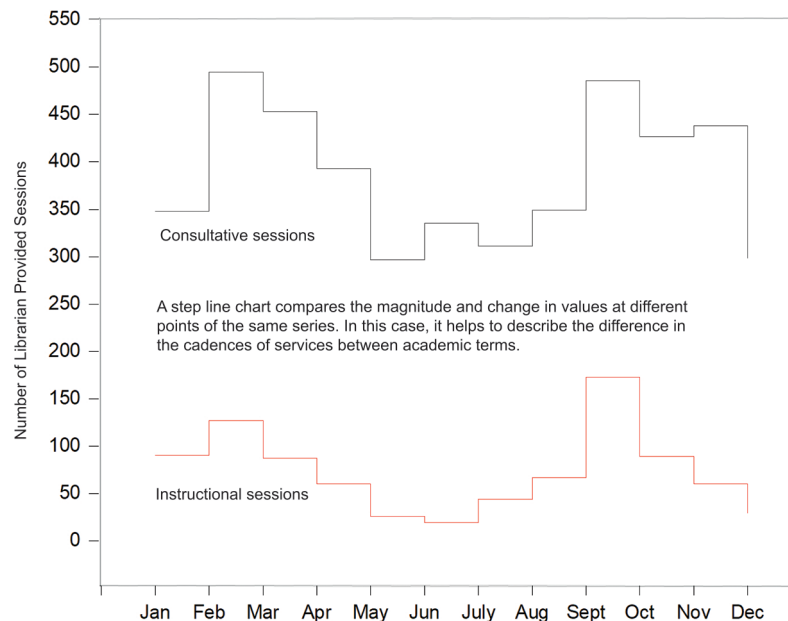
13,001 participants

in system wide instructional and workshop events

49,300 hours

booked in the Weigle and Education Commons Spaces

Figure 13. The Cadence of Instruction & Consultation



Library Instruction and Research Consultation, 2023

Library instruction & workshop events	13,001 participants / 871 Sessions
Consultations	4,630
Virtual Reference (email, chat, etc) events	3,543

Figure 14. Consultation & Instructional Sessions by Group and School

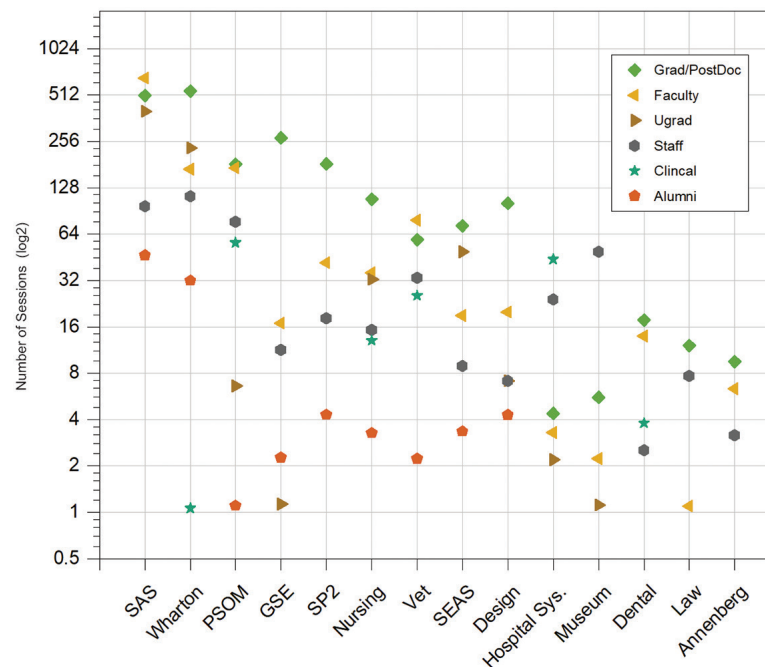


Figure 15. Consultative Service Categories (red label) Used by the Schools (black label)

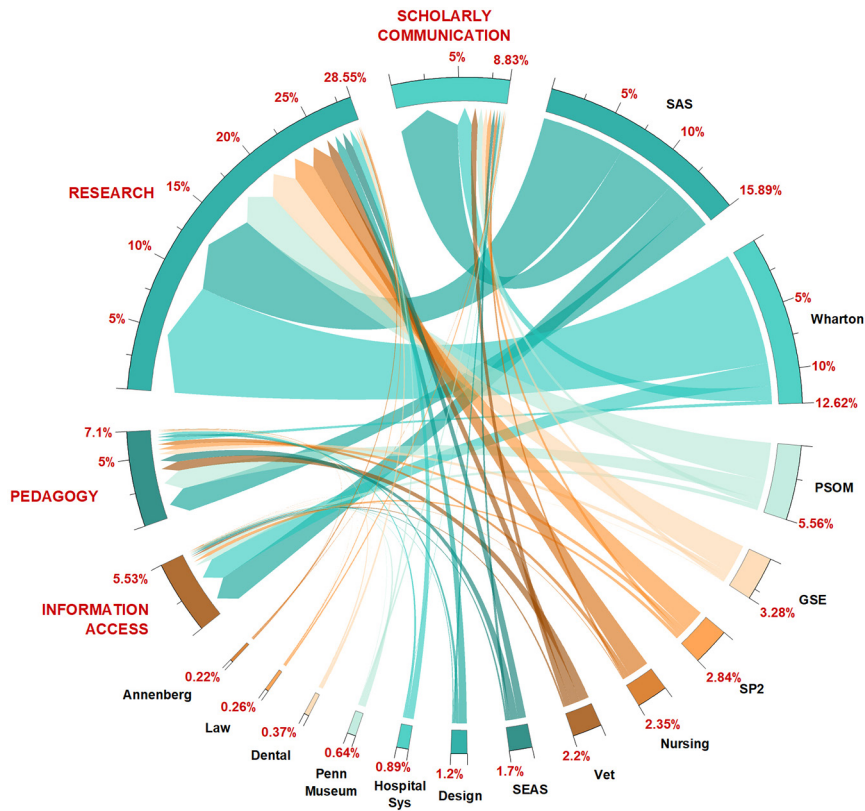


Figure 16. Forms of Consultative Services

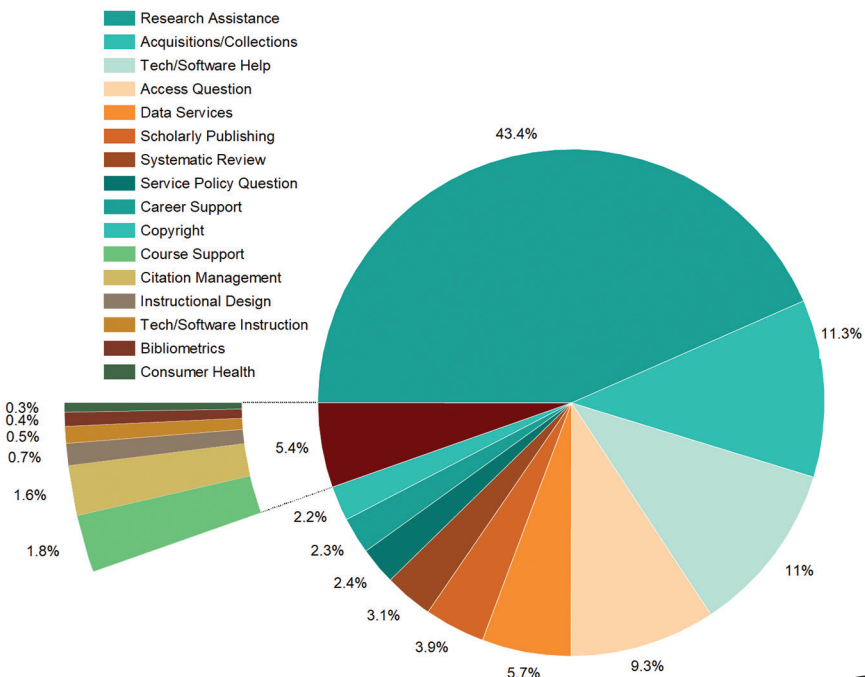
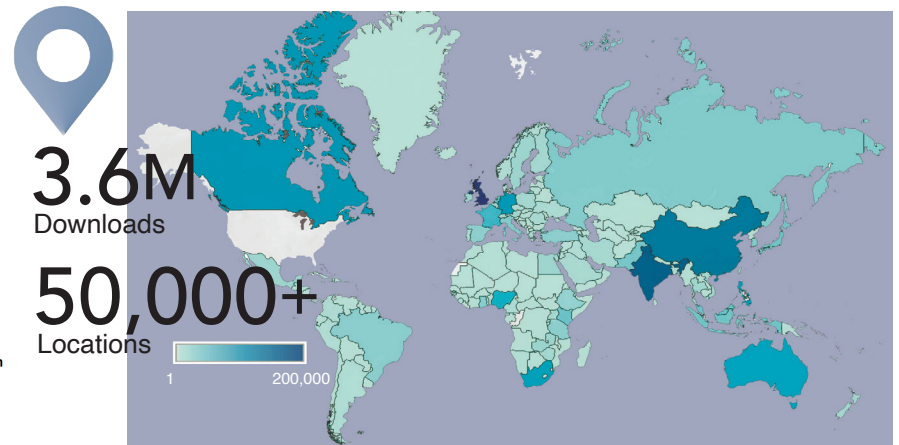


Figure 17. The Scholarly Commons World-Wide Downloads



CANVAS COURSEWARE USERS

	FY23	FY22	FY21	FY20	FY19	1-yr chg	5yr avg chg/yr
Instructors	7,927	7,544	7,689	8,255	6,750	5.1%	4.10%
Students	62,409	59,045	56,560	57,918	54,718	5.7%	3.34%

KEY CANVAS SITE CONTENT

	FY23	FY22	FY21	FY20	FY19	1-yr chg	5yr avg chg/yr
File Uploads	912190	874,708	783,970	682,609	614,923	4.3%	10.36%
Assignments	144,829	139,418	145,592	116,542	114,669	3.9%	6.01%
Discussions	109,666	115,420	124,552	108,442	86,475	-5.0%	6.12%
Media recordings	9,254	9,229	36,986	27,285	20,932	0.3%	-18.46%

CANVAS SITES CREATED BY SCHOOL[†] [centrally managed by the Libraries]

	FY23	FY22	FY21	FY20	FY19	1-yr chg	5yr avg chg/yr
Arts & Sciences	3,175	3,245	3,167	3,420	3,264	-2.2%	-0.69%
Wharton	1,446	1,384	1,337	1,185	1,224	4.5%	4.25%
Education	498	508	476	513	483	-2.0%	0.77%
SEAS	475	939	397	580	377	-49.4%	5.95%
Design	300	311	290	349	220	-3.5%	8.06%
PSOM*	282	282	274	1,748	221	0.0%	6.28%
SP2	269	270	213	235	224	-0.4%	4.68%
Nursing	247	273	225	275	246	-9.5%	0.10%
Vet	155	151	137	124	135	2.6%	3.51%
Dental	125	59	137	271	79	111.9%	12.16%
Annenberg	66	75	65	58	65	-12.0%	0.38%
Total	7,038	7,497	6,718	8,758	6,538	-6.10%	1.86%

[†] Excludes Law which operates an independent Canvas instance, and Veterinary, which operates a different platform
* Includes Biomedical Graduate Studies and Medical Ethics & Health Policy programs



CollectionProfile

Metadata drives discovery, discovery drives learning

Each year, the Libraries' metadata experts add crucial information about Penn's library holdings to the world's knowledge bases, and locally to our Franklin catalog. The importance of these metadata is hard to exaggerate. They make research possible and enable information access on a global scale. An ever-increasing proportion of our metadata reveals collections of rare and unique content previously hidden from discovery online – especially the manuscripts and printed works that distinguish the Penn Libraries (Figure 18). The work of the Schoenberg Center for Electronic Text and Image (Figure 20) links this bibliographic trove to digital facsimiles – more than five million images created since 2000. The coupling of metadata and image creates invaluable, open libraries of unique and repurposable collections on the internet. It's just part of a larger digital conversion of information that's evident in our annual intake of information (see Figure 19). Digital access is also influencing how libraries work with publishers to provide open access to vast regions of research – much of it publicly sponsored and advantageous to learning world wide (see Figures 21,22, and 24).



8,625 loans

The Libraries' collections include one of the campus's best and most heavily used stores of academically important equipment, from laptops to video cameras to DSLRs to boompoles, gimbals and stabilizers.

Figure 18. "Lighting-up" Hidden Collections

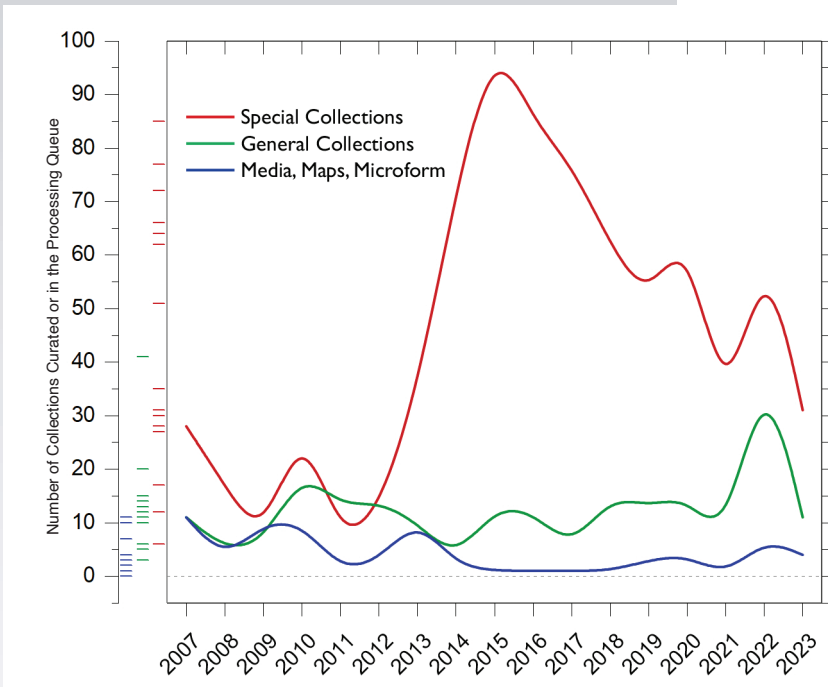


Figure 19. Information Acquisition & Cataloging

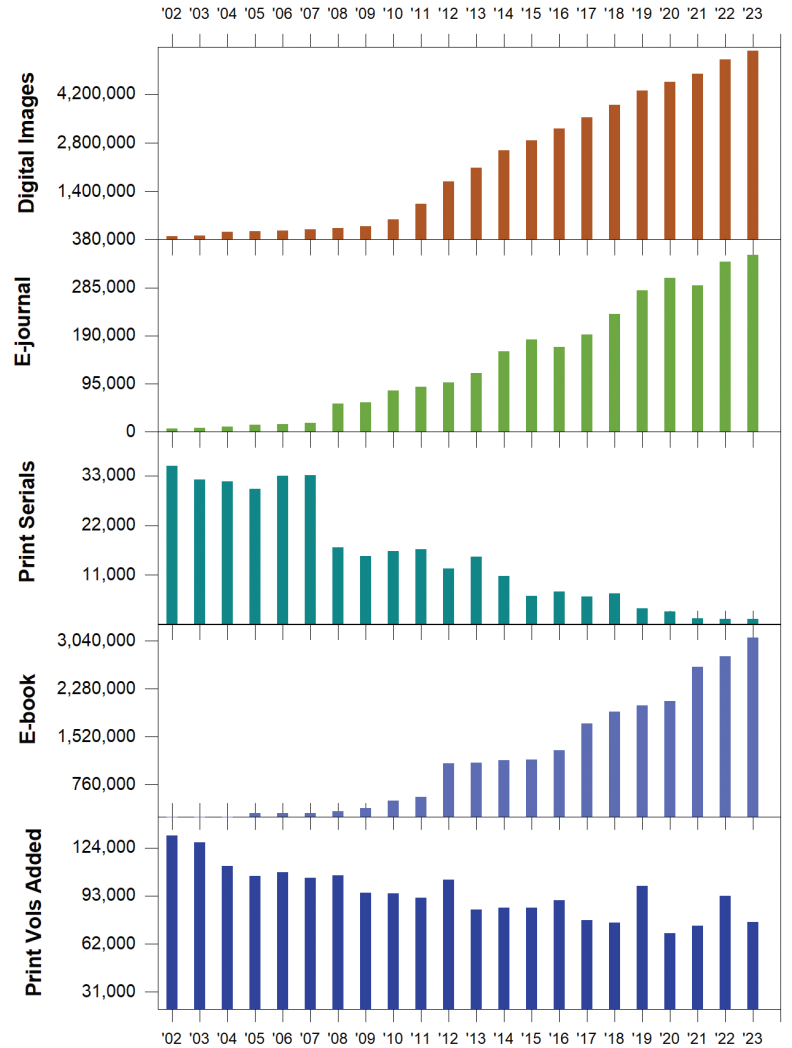
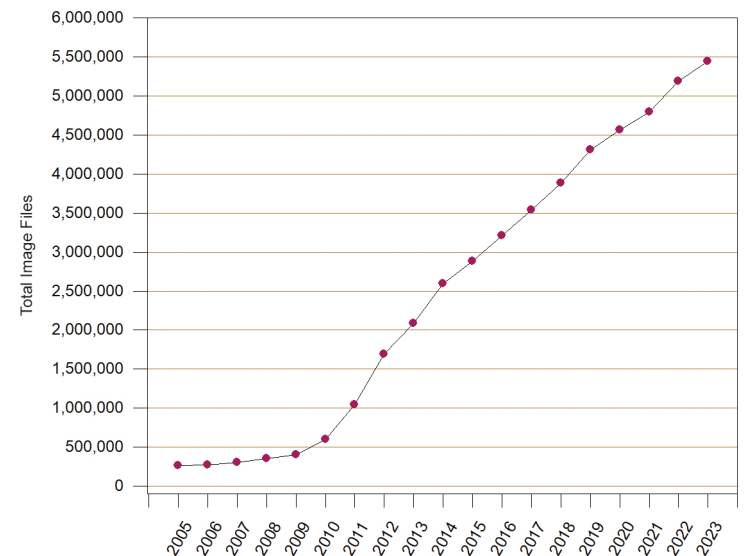


Figure 20. Cumulative Production of Digitized Images by Penn



INVENTORY OF THE COLLECTION BY FORMAT

Total Volumes [print + E-Book]	9,790,375
Physical Volumes	6,701,386
Physical Audio	125,553
Physical Video	55,245
Microforms	4,273,612
Maps	139,992
Graphic Materials	1,010,565
Number of Electronic Reference Sources	1,810
Number of E-Journals	349,808
Number of E-Books	3,088,989
Number of Locally Digitized and Published Images	5,442,758
Documents Available in ScholarlyCommons@Penn	31,070
Streaming Audio Files	207,719
Streaming Video Files	166,608

Figure 21. Open Access/Transformative Agreements Expenditures 2023 | Percent by Format

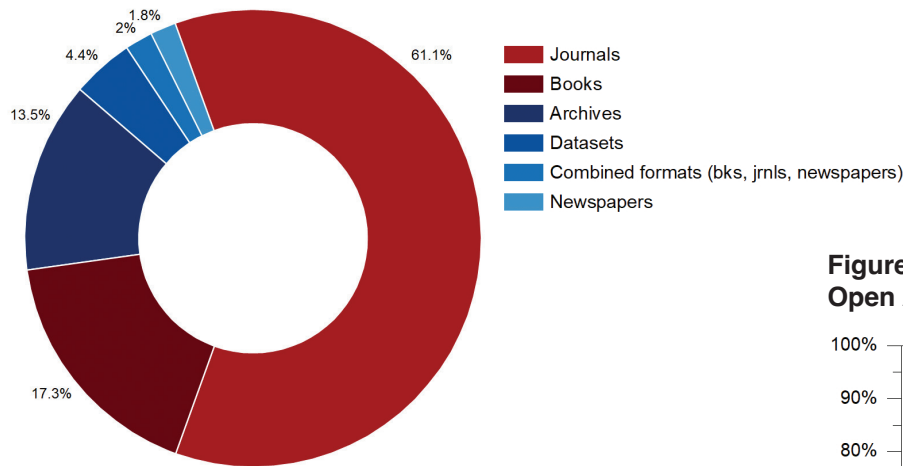


Figure 22. Penn's Adoption of Open Access

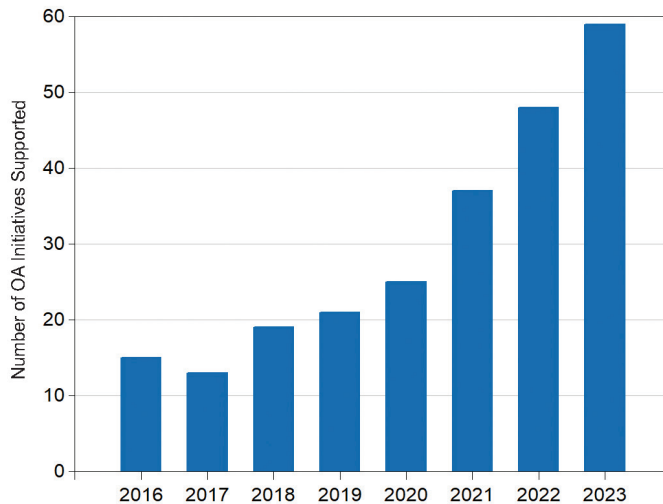



Figure 23. Top 25 Languages (after English) in the Collection


413
Languages represented in Penn's print collection.

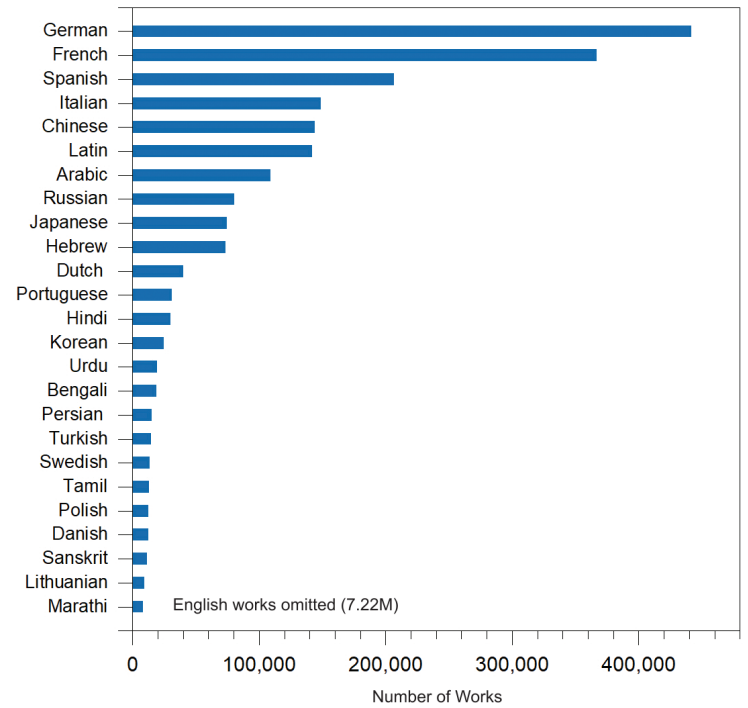
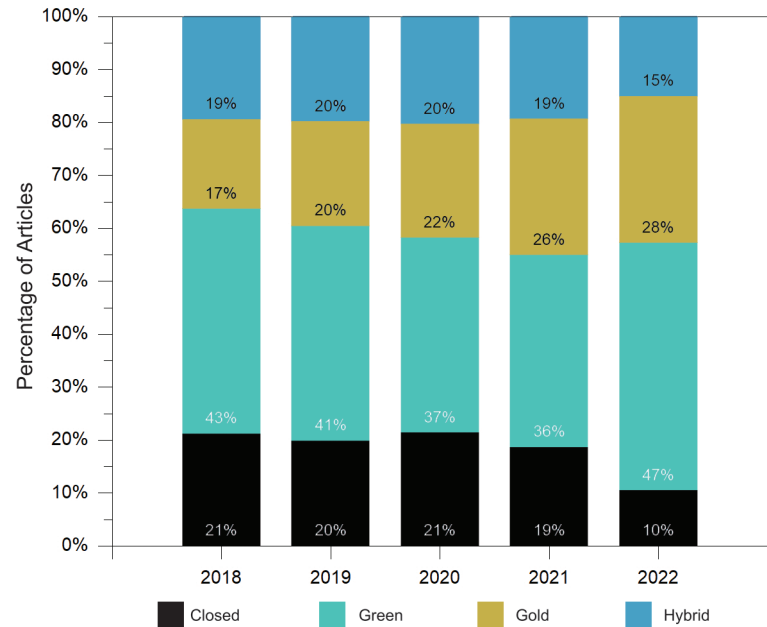


Figure 24. Federally Funded Penn Publications in Open Access Journals





ResourceSharing

The design, creation, and dissemination of meta-data detailed in the previous section, guides scholars to library collections around the globe. Sophisticated supply chains that operate internationally and among peer institutions domestically complement today's discovery networks. Discovery and delivery go hand-in-glove, made possible by the richness of library-created metadata and technology-enhanced resource sharing services

The Penn Libraries take a two-pronged approach to resource sharing: first we leverage the latest technologies to give our users frictionless request options; and second we partner with peers in programs like the BorrowDirect service of the IvyPlus Libraries Confederation, which offers one-stop discovery of more than 100 million works, liberal access policies, generous terms of loan, and turnaround of requests in a few days.

The traffic in books and articles is on a continental scale, making our reach to information virtually unlimited. Partnerships like BorrowDirect help to contain the cost of resource sharing; and they provide the means of access that support the broad, coordinated acquisition of materials and collaborative development of collections among the Ivies.

BorrowDirect has also become an incubator for workflow redesign and technology building. For our users, the service supports something akin to the "substitution effect" familiar in consumer economics, in that it provides a ready alternative to Penn material in limited local supply due to high demand or other constraints (see Figure 27). Indeed, roughly 46% of the requests placed by Penn through BorrowDirect are for locally-owned materials that are subject to high demand. That percentage runs even higher for others in the BorrowDirect cooperative.

PENN BORROWS	Titles	Copies	Total	1-Yr. Chng	10-Yr. avg/yr
Interlibrary Loan	5,874	11,745	17,619	47.8%	-4.0%
Direct Borrowing [†]	7,401	n/a	7,401	-32.2%	-18.1%
RAPID [°]	n/a	14,982	14,982	-15.6%	-5.8%
Total Items	13,275	26,727	40,002	-8.1%	-9.5%

PENN LENDS	Titles	Copies	Total	1-Yr. Chng	10-Yr. avg/yr
Interlibrary Loan	10,780	4,322	15,102	18.5%	-6.4%
Direct Borrowing	14,179	n/a	14,179	-22.8%	-10.0%
RAPID [°]	n/a	4,891	4,891	-5.3%	10.3%
Total Items	24,959	9,213	34,172	-5.8%	-8.7%

[†] Direct Borrowing services allow users to bypass interlibrary loan and request books directly from the IvyPlus institutions and selected schools in the Pennsylvania-New Jersey-Maryland region. [°]RAPID is an expedited alternative to traditional interlibrary loan for journal articles

Figure 25. Items Supplied from Penn's Collections & Its Partners

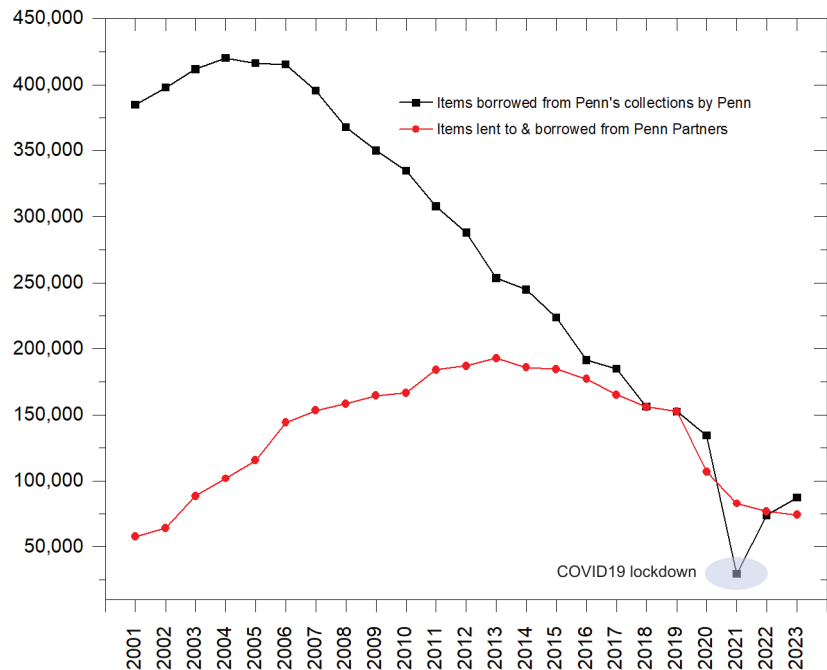


Figure 26. Items Lent & Borrowed by Penn

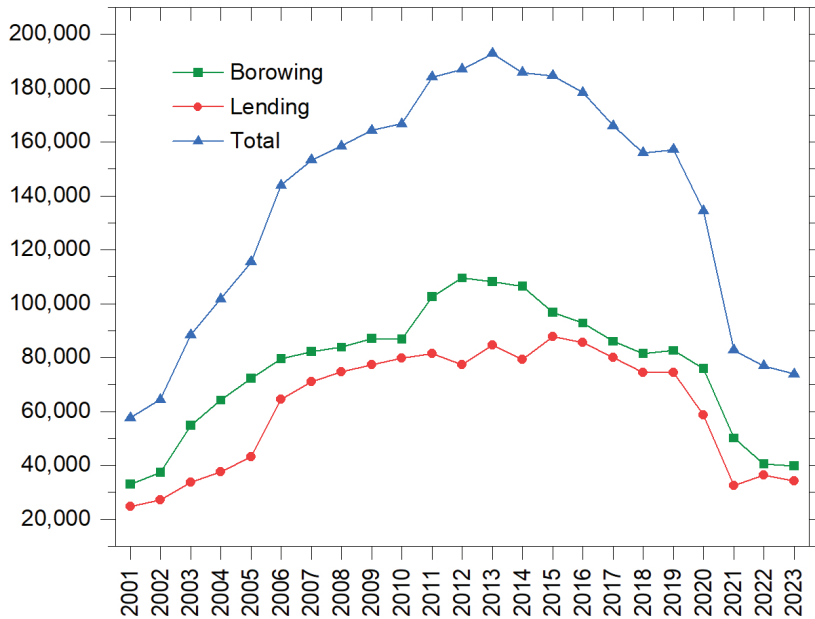


Figure 28. BorrowDirect Service by Groups, Penn & IvyPlus

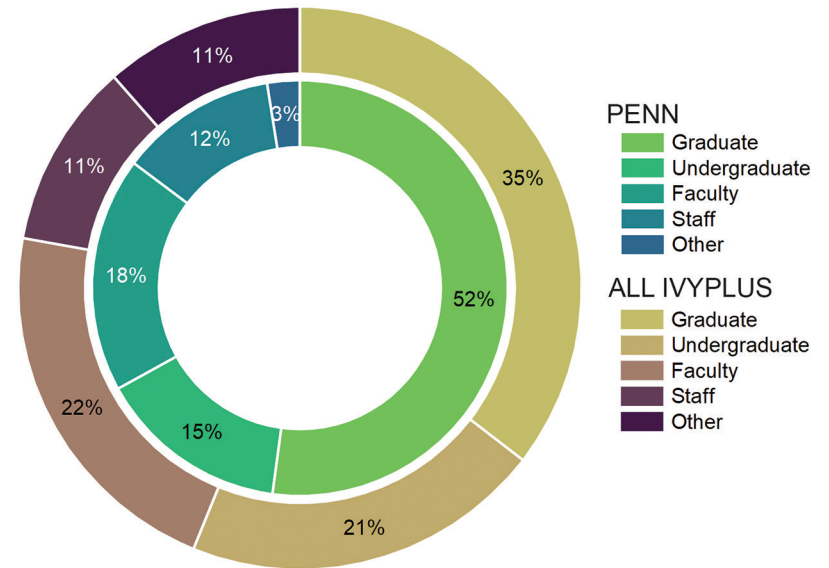


Figure 29. World-Wide Resource Sharing at Penn

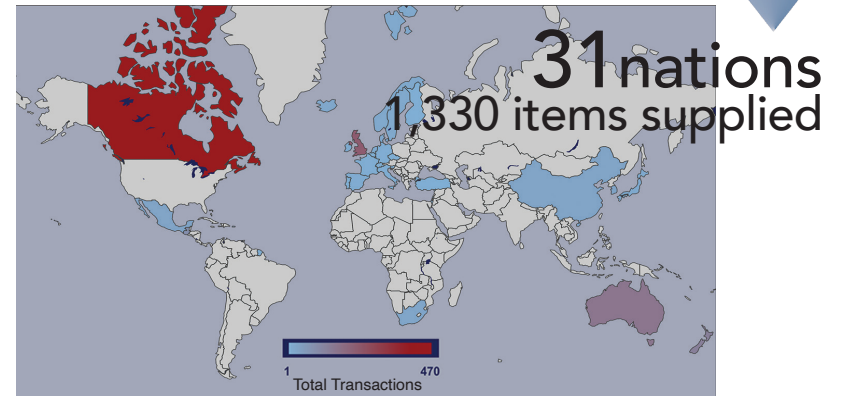
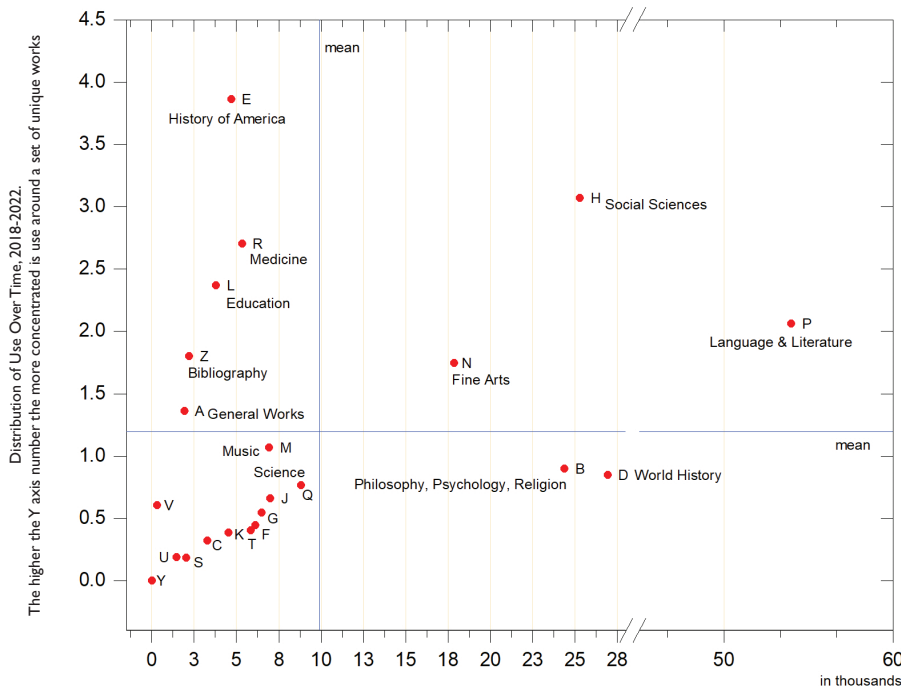


Figure 27. BorrowDirect links the collections of the IvyPlus libraries and makes more than 100 million works available to the 13 partners. In many subject areas, like History of America, a small set of works is in persistent demand, the range of titles relatively narrow. In contrast, reading in Literature involves a far broader spectrum of individual works used less repeatedly. Persistence vs variety, concentration vs breadth may identify the need for multiple copies among the BorrowDirect partners or the need for wide-ranging, coordinated acquisition of unique works. This chart highlights subject areas across disciplines that exhibit both persistent and highly distributed use. It underscores the dynamics of circulation as a tool for assessing collaborative collection opportunities.

Figure 27. Subjects† Circulating Among the IvyPlus Libraries: Concentration vs Variety / Breadth vs Depth



†Labels are Library of Congress subject classification codes used to describe and locate items in library collections.



Finances

Library Income & Expenditures

TOTAL 2023 INCOME: \$88,954,927

Sources of Funds

Schools & Centers.....	88.53%
Endowments.....	7.17%
Self-generated.....	2.31%
Subvention.....	1.19%
Gifts & Grants.....	0.80%

LIBRARY COSTS ALLOCATED TO SCHOOLS & CENTERS 2022 (latest)

Arts & Sciences	25.09%
Medicine	18.75%
Wharton	11.25%
Engineering	10.33%
Law†	5.87%
Nursing	3.20%
Education	3.06%
Design	2.46%
Dental	2.33%
Veterinary	2.02%
Social Policy & Practice	1.53%
Museum	1.06%
Annenberg	0.94%
Hospital [HUP]	0.58%
Interdisciplinary	0.04%

† Includes the Law and Annenberg Schools' direct contribution to their libraries.

#8

Penn's overall rank in the Investment Index of the 116-member Association of Research Libraries

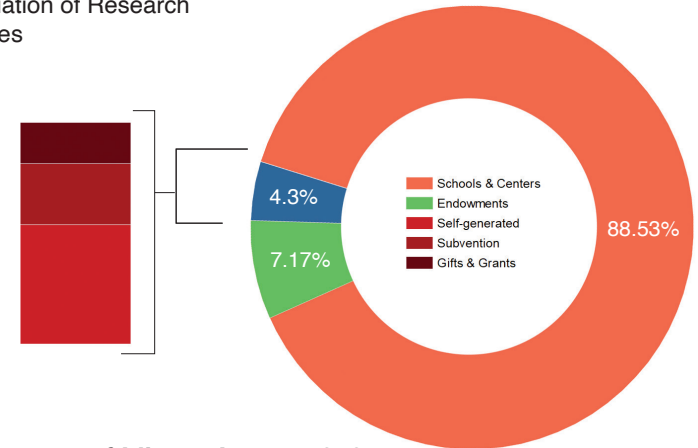
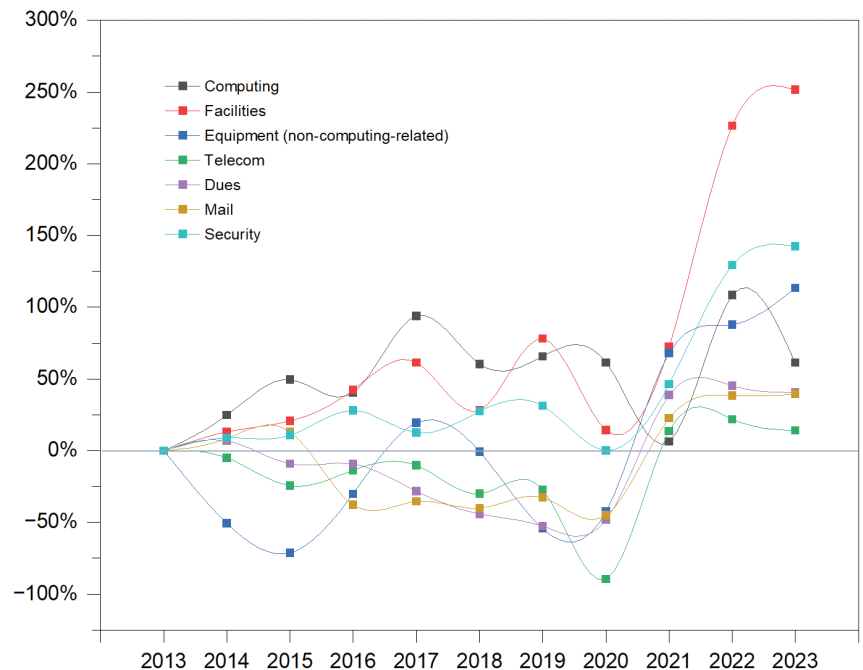


Figure 30. Sources of Library Income 2023

NB: The Penn Libraries are funded through a system of Responsibility Centered Management (RCM). Each of the University's twelve schools and its various centers picks up a portion of the tab for information services. The percentage is determined by an algorithm based on population and course units. This system works to normalize the Libraries' budget, recognizing that library service is a common good to all of Penn's communities.

Figure 31. Changes in Operational Expenditures, 2013-23





EXPENDITURE BY CATEGORY

Compensation	\$34,774,007	39.09%
Acquisitions	\$29,657,337	33.34%
Allocated Costs	\$14,310,000	16.09%
Supplies & Services	\$5,943,686	6.68%
Computer Services	\$2,329,147	2.62%
Storage (Rent/O&M)	\$829,723	0.93%
Equipment	\$368,782	0.41%
Renovations	\$277,142	0.31%
Preservation & Binding	\$270,086	0.30%
Staff Development	\$195,016	0.22%

ANNUAL FUNDRAISING FY21-FY23

	FY23	FY22	FY21
Total Raised	\$8,851,179	\$8,327,879	\$9,240,380
Number of Donors	386	454	489
Individual Gifts	531	573	586
Active Grants	5	8	11
Grant Dollars	\$19,802	\$85,578	\$95,749

LIBRARY EXPENDABLE ENDOWMENT

Number of endowment funds	336
Market value	\$152,646,290
Income from endowment	\$5,711,610

NOTABLE RECENT GIFTS

Collections [cash + in-kind]	\$16,500,000
Arnold & Deanne Kaplan	\$12,000,000
Edward S. Curtis	\$4,500,000
Capital: Wendy & Wayne Holman	\$5,000,000
Talent: Gershwind & Bennett Families	\$3,500,000

Figure 32. Market Value of Library Endowment Over Time

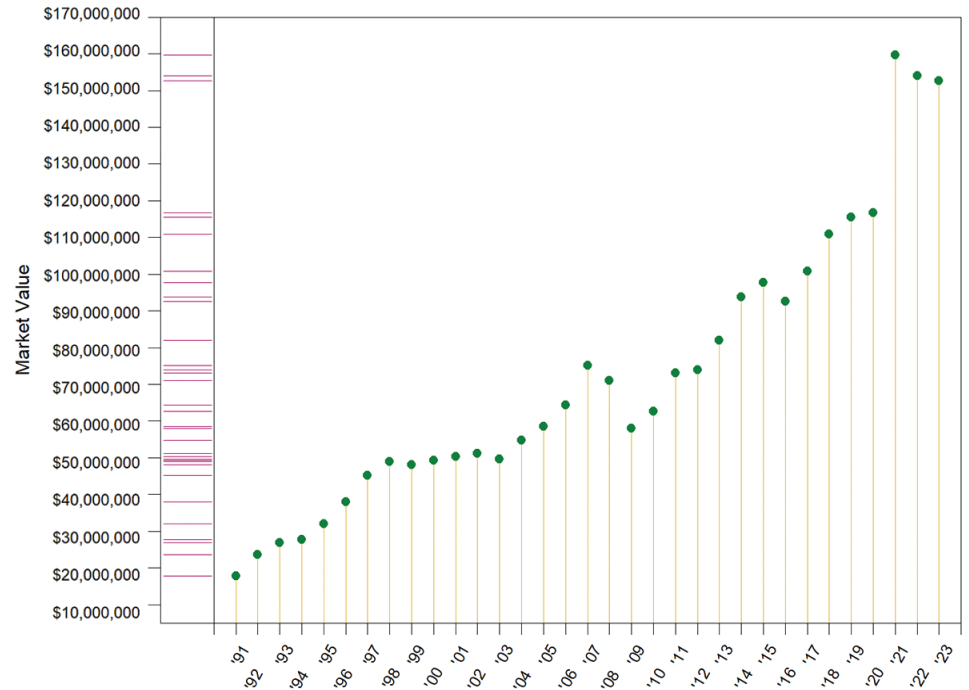


Figure 33-34. Active Grants: Size of Award & Frequency Over Time





Information Expenditures

Each year across disciplines, electronic resources command the largest share of information spending (Figure 35). The demand for digital information stands in delicate balance with an enduring demand for print, still an essential form of scholarly communication, especially for the humanities. The 60,000+ volumes processed in 2023 epitomize the need for balance. So does the careful orchestration of spending evident in Figure 36. The volume of information use may speak to the preference for digital, but our usage data also show Penn scholars ranging quite broadly across subject and format boundaries (see Figures 6, 7, and 10).

The cost of information, particularly serials, continues to climb at a steeper rate than other goods and services, and constrains library budgets. To maintain the highest levels of information access for Penn scholars, we employ various strategies that address inflationary pressures and the optimal alignment of our collections with Penn’s academic programs. These include the growth of endowment, strengthening of resource sharing networks, and increasingly, collaboration with publishers in new models of serials acquisition that simultaneously increase open access and defray the cost to publish.

Our strategies must be data driven aided by analyses similar to Figure 9 above, which identifies the relative cost-efficiency of materials within specific domains. The graph is based on acquisition costs and circulation data arrayed in Library of Congress classification. (Circulation counts exclude in-house use.) Two variables are plotted: Average Cost Per Use (X axis) and Average Unit Cost (Y axis). The median lines divide the graph into quadrants. The most “efficient” classes, in terms of these variables, scatter in the lower left quadrant; the remaining plots rise and move to the right as items increase in expense and decrease in use. Medicine and Science, not particularly bookish fields, have a relatively favorable cost per use ratio as a result of fairly strong circulation at Penn. The humanities, the most prolific group for circulation and the group most connected to the print monograph, perform best overall.



8th Rank

Penn’s position out of 118 research libraries nationally in Information Expenditures

Figure 35. Information Expenditures by Category

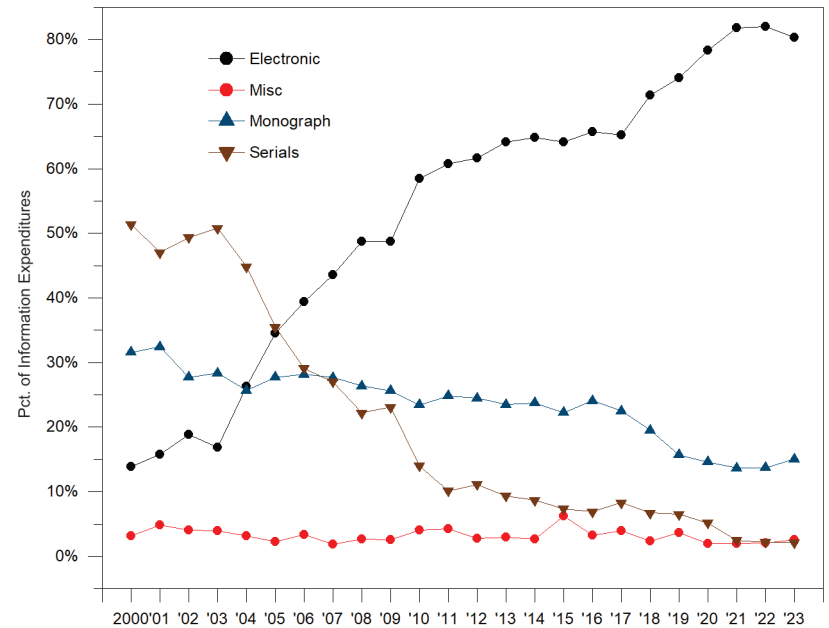
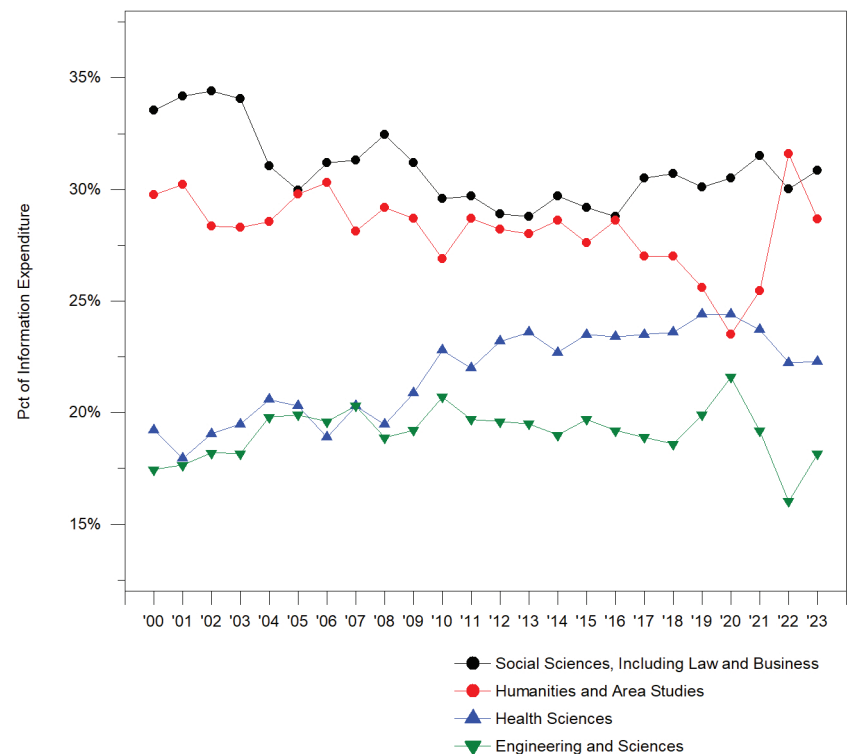


Figure 36. Information Expenditures by Discipline



Information Expenditures by Category & Subject Area, 2023

Electronic Information	80.3%
Monographs	15.1%
Scores, slides, audio-visual & other physical formats	2.5%
Serials (for print and E-journals that come bundled with print)	2.1%
Social Sciences, including Law & Business	30.8%
Humanities and Area Studies	28.7%
Health Sciences	22.3%
Engineering and Sciences	18.2%

Figure 40. Information Expenditures by Category & Subject

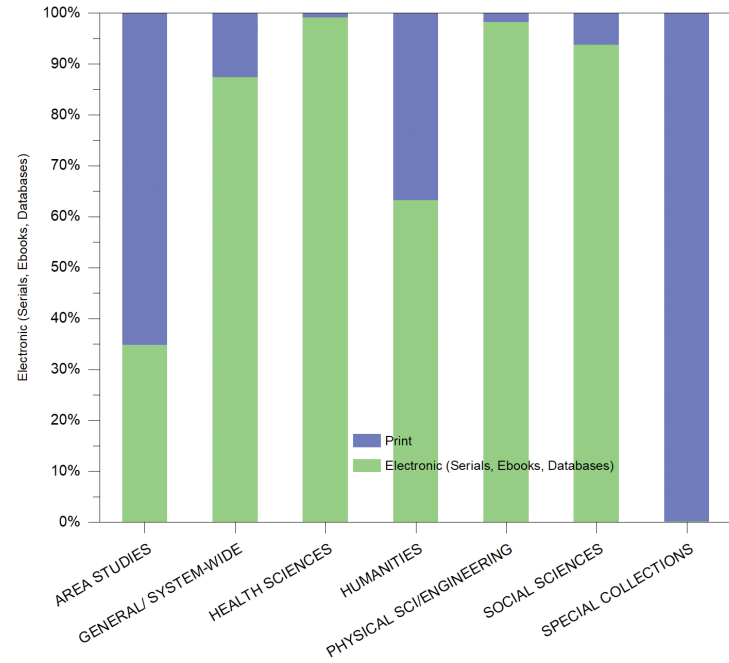
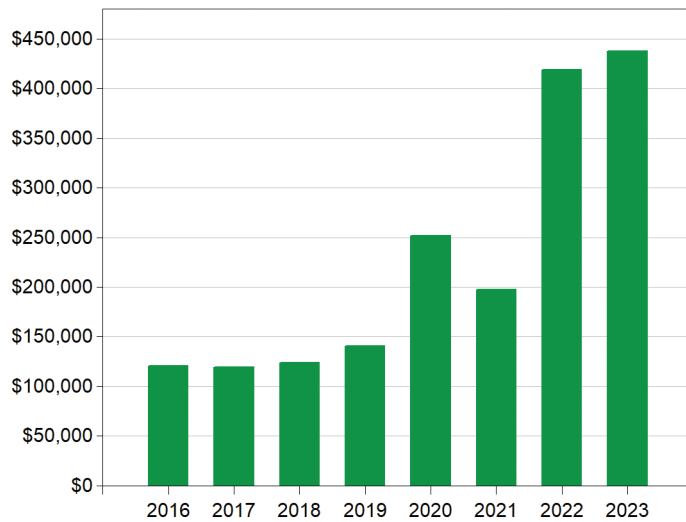


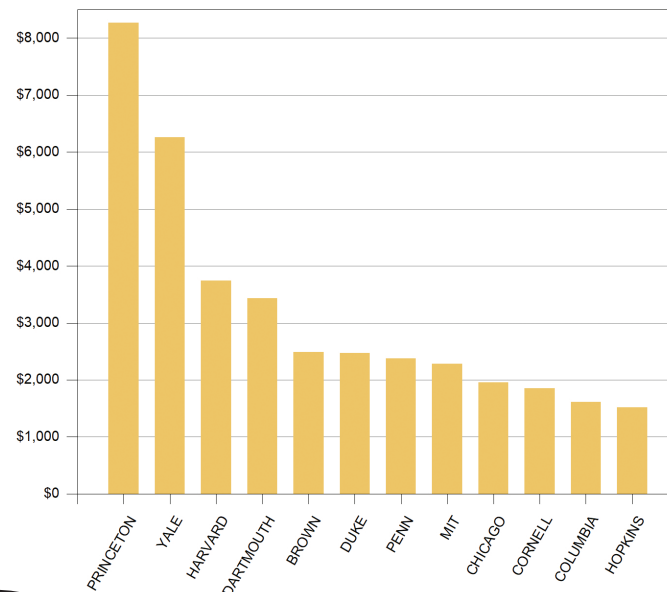
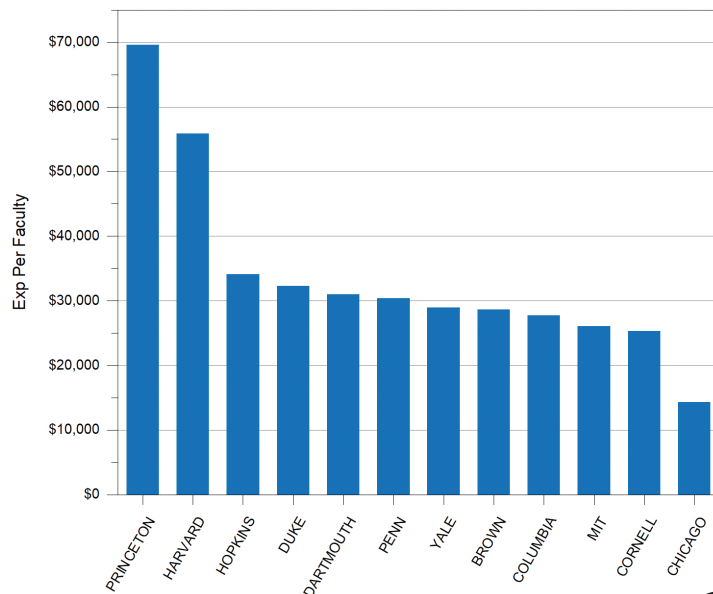
Figure 37. Spend for Open Access/Transformative Agreements



\$467,000

The savings Penn will realize through the Libraries' engagement with major publishers in transformative licensing models.

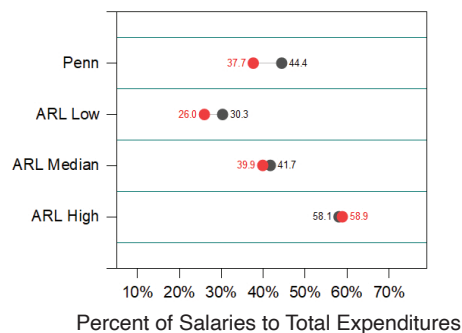
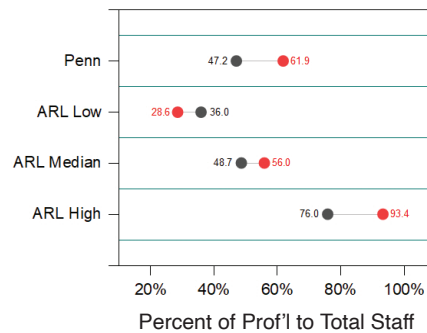
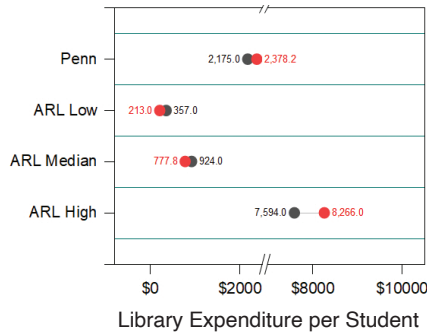
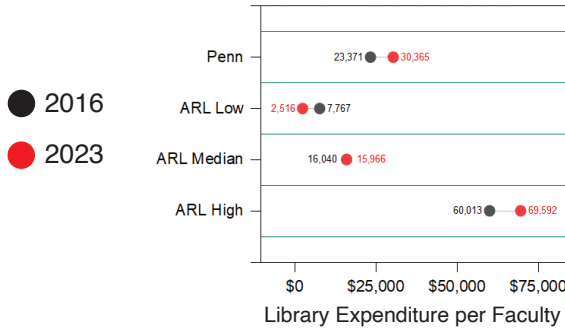
Figures 38 & 39 Expenditures Per Faculty & Student, 2022





Benchmarks & Trends

Figure 41-44 L-R. ARL Library Trends. Strengthening Indicators



Throughout this booklet, data are pointing to accelerating change and new challenges for the Libraries. The vital signs from our peers, as compiled by the Association of Research Libraries (ARL), suggest that Penn's ability to weather changing trends is strengthening relative to other research libraries, based on rising and careful investment of University resources.

ASSOCIATION OF RESEARCH LIBRARIES (ARL)[†] EXPENDITURES PER FACULTY & STUDENT

2022 (n=118)	ARL High	Median	Low	Penn	Rank
Library Expenditures per Faculty	\$649,592	\$15,966	\$2,516	\$230,365	12
Library Expenditures per Student	\$8,266	\$778	\$213	\$2,378	10

[†] 2022 latest available. Excludes national archives and public libraries. Source: Association of Research Libraries

COMPARATIVE PERSONNEL RATIOS, ARL & PENN 2022

	ARL High	Median	Low	Penn	Rank
Library Salaries, Pct. of Total Spending	58.9%	39.9%	26.0%	37.7%	79
Professional Staff as Pct. of Non-student Full-Time Equiv. (FTE)	100.0%	56.1%	28.6%	53.0%	42

ARL Rank for Total Staff (FTE)	2018	2019	2020	2021	2022
	18	19	23	19	19

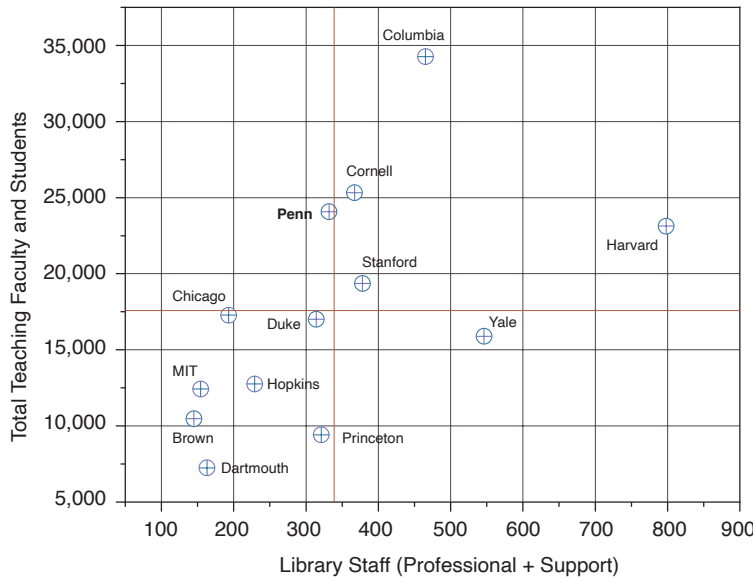
PENN'S RANKS ARL LIBRARIES, FY10-22

	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22
ARL Investment Index	17	17	16	18	15	11	10	8	8	8
Prof'l + Support Staff	15	15	18	16	14	13	13	20	13	14
Wages and Salaries	20	20	16	16	15	14	11	13	8	8
Information Expenditures	23	23	17	24	17	12	11	7	8	8
Total Library Expenditures	17	17	16	15	13	11	11	8	7	8

PENN LIBRARIES STAFFING, 2023

Total Full-Time (FTE)	Professional	Support	Student	Total
	198	122	29	386

Figure 45. Library Staff & Academic Audience, Ivy Plus



RATIO OF LIBRARY STAFF TO ACADEMIC AUDIENCE

Harvard	3.4%	Brown	1.4%
Princeton	3.4%	Columbia	1.4%
Yale	3.4%	Cornell	1.4%
Dartmouth	2.2%	Penn	1.4%
Stanford	2.0%	MIT	1.2%
Duke	1.8%	Chicago	1.1%
Johns Hopkins	1.8%		

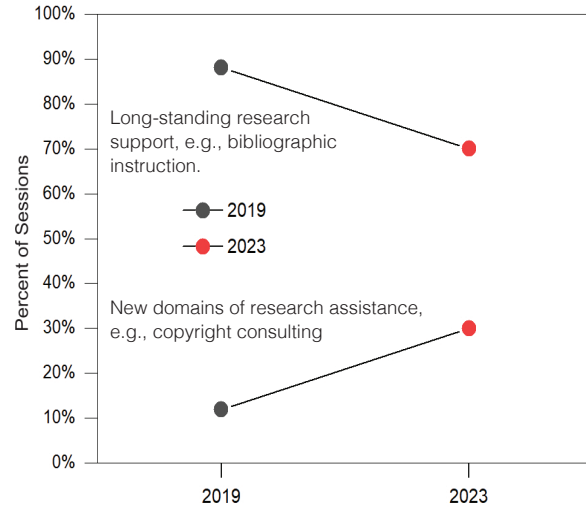


Figure 47. Changing Focus of Academic Engagement

Library instructional and consultative services are changing in step with academic needs, as evidenced in the evolving focus of library-user engagements. Librarians spend an increasing amount of time in new domains of service: helping scholars with copyright, compliance requirements of publication, the measure of impact and reach of their research, along with increased demand for instructional design assistance, courseware training, career support, and software and device management. These newer topics add to our continuing work in more familiar arenas, like guiding students in research basics, assisting faculty with literature review, acquiring resources for research and course reserves, and the preparation of syllabi.

Figure 46. Library Staff Deployment [full time equivalents]

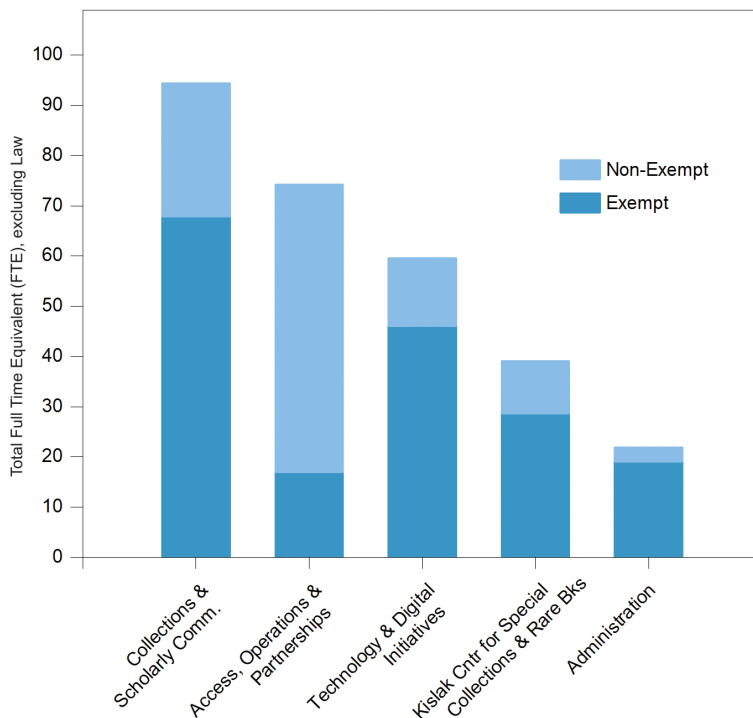
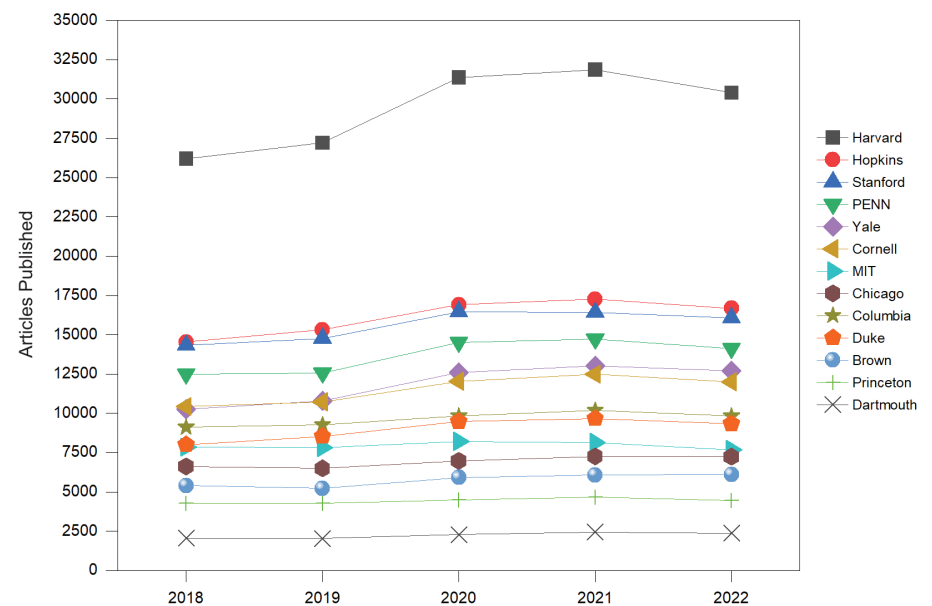


Figure 48. Research Publication Output of the IvyPlus





University Indicators

The Penn Libraries serve a world-class research and teaching enterprise. The products of the institution – publications, completed degrees, instructional programs, international cooperatives, patents and new drugs, clinical procedures and pedagogical advances, the processes of tenure and promotion, and ultimately Penn’s impactful reputation and imprint on society – these dimensions of value arise, in large measure, through the use and subsequent transformation of value engendered by the Libraries. The vital signs of the Penn enterprise, their variety and scale epitomized in this brief section, frame much of the data presented in the preceding pages of charts and lists. They are a lens on the demand the Libraries must satisfy from 12 schools, more than 170 research centers and institutes, and a service population of some 46,000 regular faculty and staff, and 28,000 enrolled students.

Figure 49. Doctoral Degrees Awarded, Ivy Plus Group, 2022

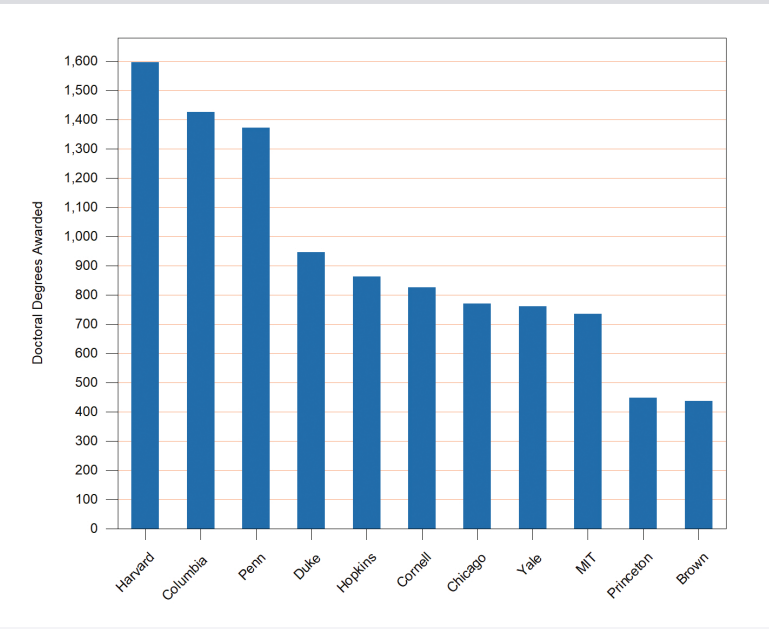


Figure 50. Penn Research Publications, with a Focus on Federal Sponsorship

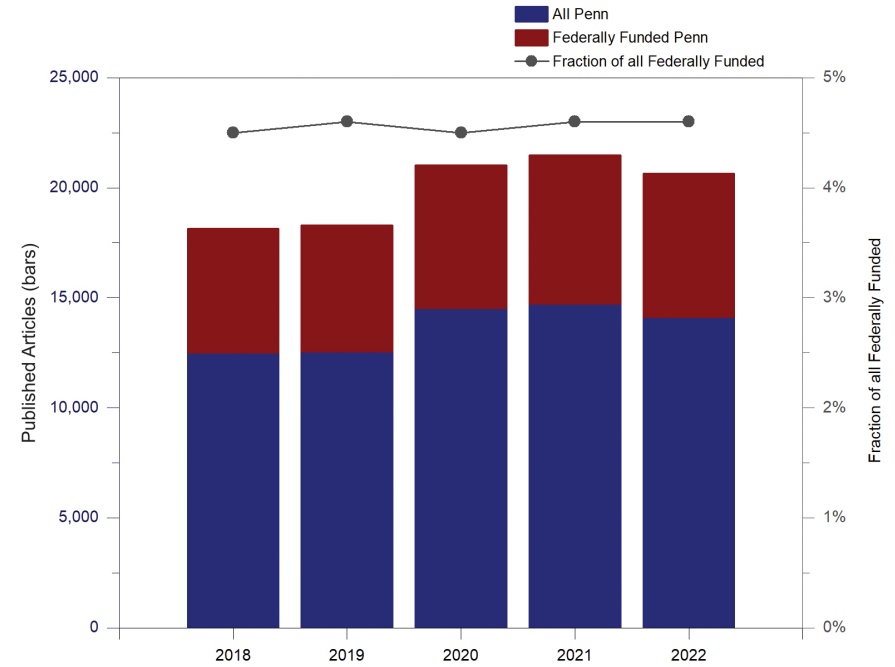


Figure 51. R & D Expenditures, Ivy Plus Group, 2022

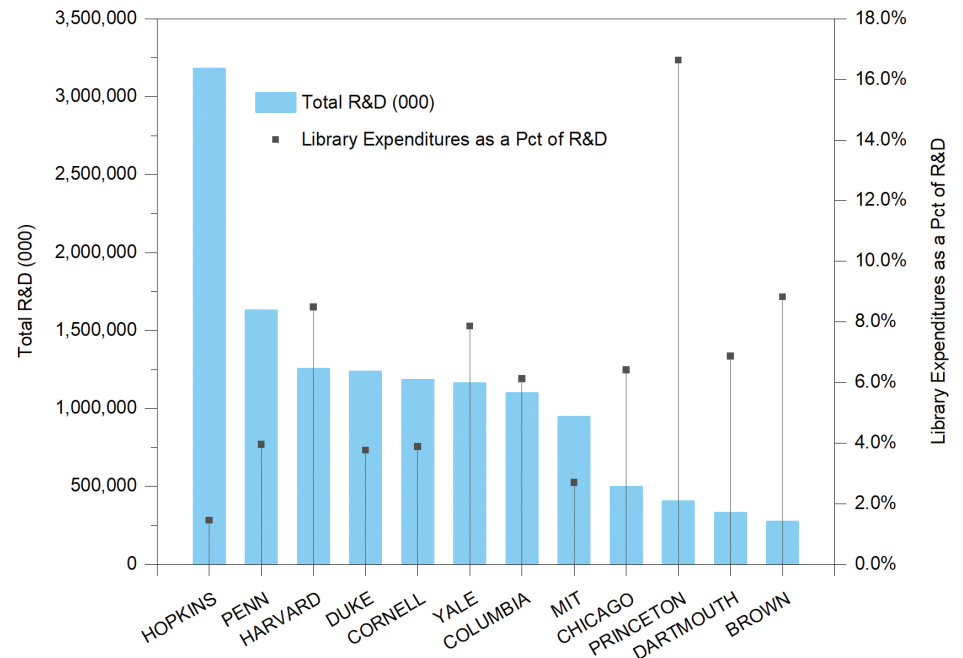


Figure 52. Penn's Major Research Collaborators

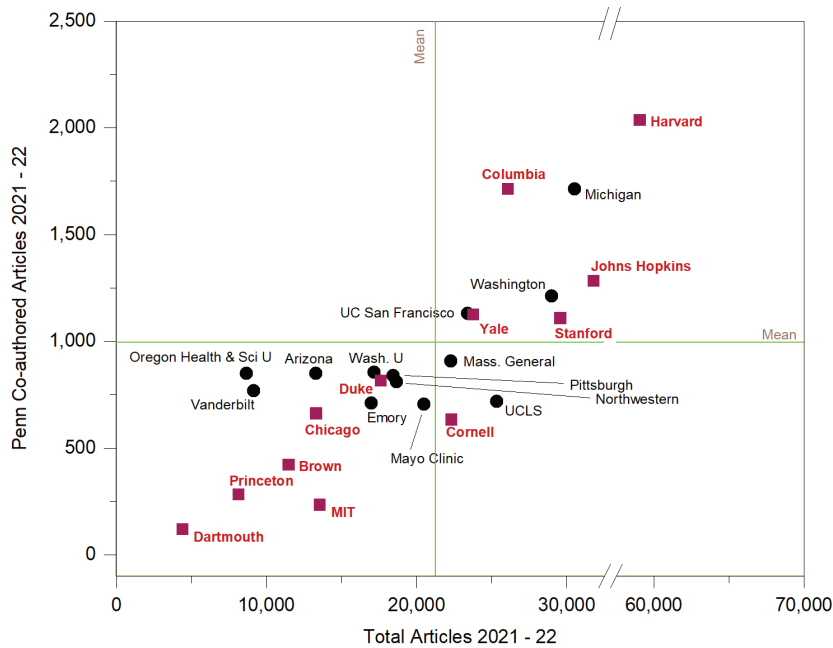


Figure 54. Federally-Supported Publications by Field – Penn, the IvyPlus Library Confederation, and U.S. Total, 2022

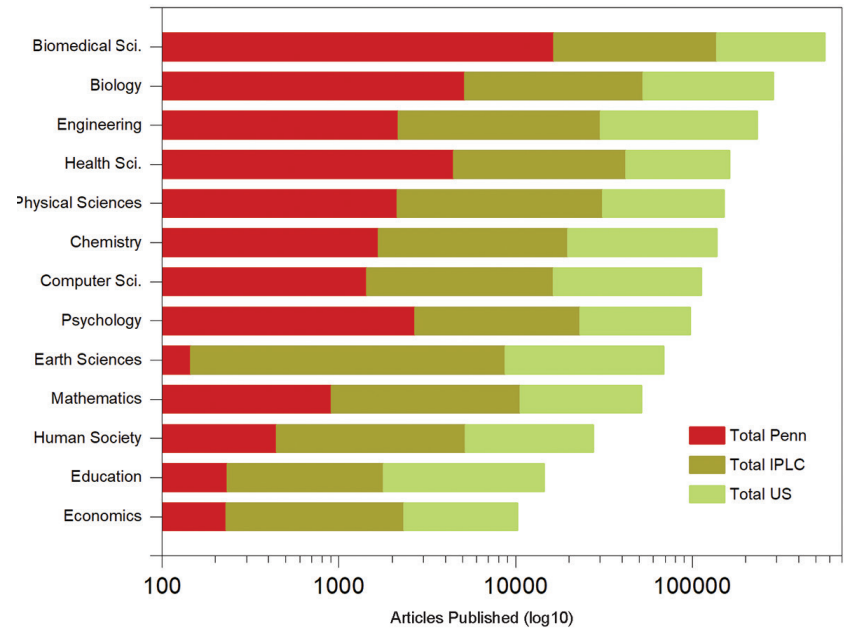
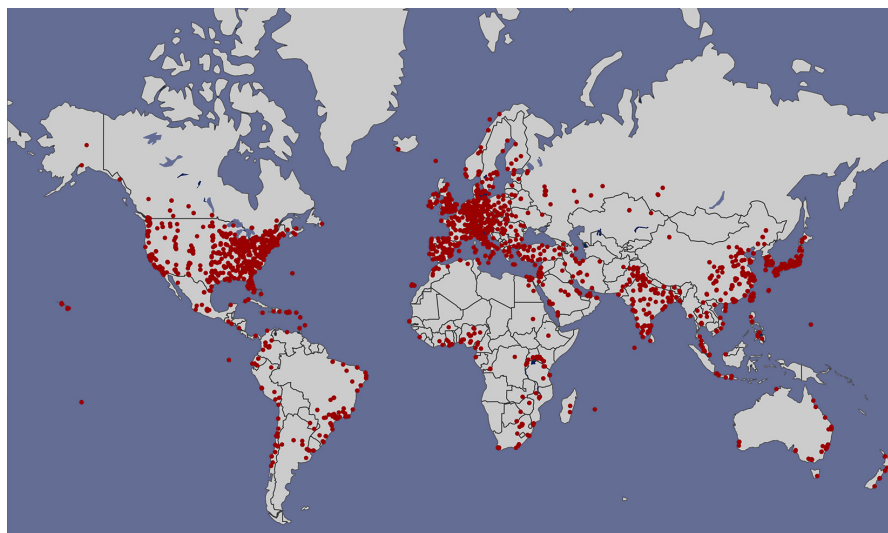


Figure 53. World-wide Penn Co-author Network Based on 2020 Research Publication. Each dot signifies the institutional location of Penn co-authors



85%
in federal dollars

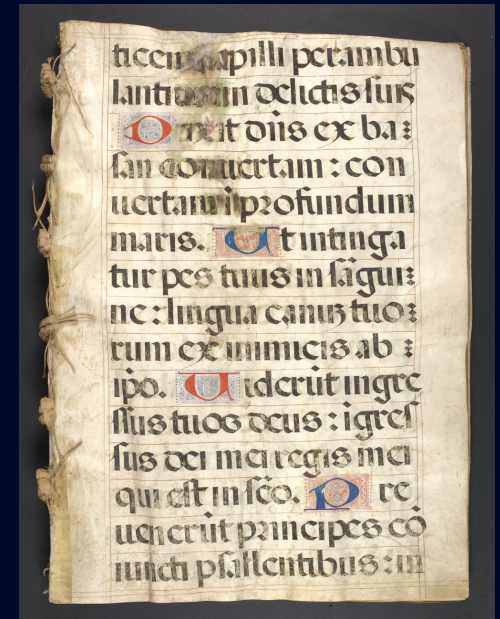
The National Institutes of Health and federal support in total accounts for 85 percent of sponsored program support at Penn, according to the Office of the Vice Provost for Research. Proposed government guidelines for the dissemination of federally-funded research scheduled for 2026 will impact the global scholarly communication system. With an intensified focus on Open Access and repository infrastructure, the Libraries are positioning to meet changing currents in the flow of research, data, and publicly-supported scholarship.



Historical Milestones | 1750-2023

- 1750 Penn receives donation of books from famed cartographer Louis Evans.
- 1762-4 First Provost William Smith travels to England to raise money for the Library. First list of collections created.
- 1784 Louis XVI, King of France, gives 100 volumes.
- 1829 First Library printed catalog published.
- 1872 Penn moves to West Philadelphia, with Library quartered in College Hall.
- 1884 First professional librarian, James G. Barnwell, appointed to direct the Library. Dictionary catalog initiated.
- 1891 The first free-standing Library opens with 55,000 volumes in a building designed by renowned Philadelphia architect, Frank Furness.
- c1945 Libraries reach one-million-volume mark.
- 1962 Van Pelt Library opens.
- 1967 Dietrich Graduate Library Center opens.
- 1969 Biomedical Library opens in its present location, Johnson Pavilion.
- 1972 Automated circulation system introduced. Penn, Drexel and Temple become the first libraries outside Ohio to use the computerized cataloging system of OCLC.
- 1973 Library Data Services Office established.
- 1981 Three-millionth acquisition.
- 1985 Online catalog introduced.
- 1990 Opening of the Anne and Jerome Fisher Fine Arts Library marks the restoration of the National Historical Landmark structure opened in 1891.
- 1993 Four-millionth acquisition.
- 1995 Penn's Digital Library opens on the World Wide Web. Van Pelt-Dietrich Library Center renovation begins.
- 1996 The Schoenberg Center for Electronic Text and Image opens, transforming research by making special collections available worldwide for scholarly use through archive-quality digital facsimiles.
- 2000 Libraries observe 250th anniversary.
- 2001 Five-millionth acquisition.
- 2002 Libraries assume responsibility for campus-wide courseware support.
- 2004-5 Libraries launch digital repository, the Scholarly Commons@Penn.
- 2006 The Weigle Information Commons opens in Van Pelt-Dietrich.
- 2010 Construction of Special Collections Center begins.
- 2011 Launch of the Schoenberg Institute for Manuscript Studies to bring together manuscript culture, modern technology and scholars at Penn and beyond.
- 2012 Education Commons opens in Franklin Field.
- 2013 Kislak Center for Special Collections, Rare Books and Manuscripts opens.
- 2015 Final phases of Kislak Center construction are completed.
- 2016-17 ALMA, the cloud-based Library Management Platform is launched, opening a new period in Library technology services.
The Moelis Family Grand Reading Room opens.
- 2020 The Penn Libraries responds to the COVID-19 emergency.
- 2021 The Holman Biotech Commons Opens.
- 2022 University Archives & Records Center joins the Libraries.
- 2023 Research Data & Digital Scholarship Exchange (RDDSx) Opens

SIMS at 10



THE SCHOENBERG INSTITUTE FOR MANUSCRIPT STUDIES

Guided by the vision of its founder, **Lawrence J. Schoenberg**, the mission of the Schoenberg Institute for Manuscript Studies (SIMS) is to bring pre-modern manuscript culture, modern technology and people together through technology- and data-driven projects, public programming, and scholarly communication, including the open-source journal Manuscript Studies. The foundation of SIMS is the Schoenberg Collection – roughly three hundred manuscripts with an emphasis on the history of science and the transmission of knowledge – and its team of expert curators, scholars, and digital humanists.



Principal Advisors

Stacey Gershwind Bennett, C'95
Judith L. Bollinger, WG'81, GL'24, PAR'14
Sandra Choi Brigode (ex-officio), WG'99
Eduardo Costa, C'98
James C. Crowley, W'96
Alexandra Shapiro Cudby, C'91, WG'97
Erik Gershwind (Chair), W'93, PAR'27
Laurie G. Gliklich, C'90, PAR'21, PAR'23
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Christine Hikawa, CW'73, PAR'21
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Cynthia Warshawsky Mark, C'93, W'93, PAR'26
William Park, C'89, PAR'27
Eric G. Reiter, W'97, PAR'26
Mark Rosenbaum, W'95, PAR'26
Jane Kislak Sands, WG'19
Andrew N. Schwartzberg, C'94
Rohit Singh, C'02, W'02
Andrew Snyder, W'92, PAR'26
Mina T. Wattenberg, C'94, PAR'27
Marilyn Kramer Weitzman (Kahn), CW'68, G'69
Candice Wang Willoughby, C'97
Stephanie Zilberman, WG'01

Sources & Notes

School abbreviations used in graphs:

ASC | Annenberg School for Communication
GSE | Graduate School of Education
PSOM | Perelman School of Medicine
SAS | School of Arts and Sciences
SEAS | School of Engineering and Applied Science
SP2 | School of Social Policy and Practice

Page 2.

Service Events and Information Sources are compiled from a variety of transactional records in the MetriDoc and other library Platforms, the Alma database, logs, published reports of publishers, and public data on the holdings of partner libraries and vendors.

Pages 3-4.

Figures 6 and 7: Per capita measures are based on fall 2022 population data compiled by Penn's Office of Institutional Research and published in *Quick Facts: Academic Year 2022-23*. All usage data are derived from the Alma LSP, COUNTER reports of library vendors, historical annual reporting of library administration, and logs derived from the EZProxy authentication system for electronic usage.

Pages 5-6.

Data on consultative and instructional services are derived from librarian reported services logged in MetriDoc. The Atmire-serviced Dspace platform for Scholarly Commons provides repository downloads.

Pages 9-10.

Penn provides the IvyPlus Library Confederation with BorrowDirect analytics based on MetriDoc integration with the ReShare service. Other ILL data is derived from the ILLiad system that supports ILL workflows.

Pages 13-14.

Comparative per capita spending data in Figures 38 and 39 are derived from the 2022 ARL Statistics, which are the latest available.

Page 15.

The Association of Research Libraries Annual Statistics is the source for all data published on Page 15 with the exception of staff FTE counts in Figure 46, which are compiled in an annual census from December 2022.

Page 16.

Figure 48: The source is the Dimensions Database.

Page 17-18

The doctoral degrees in Figure 49 are taken from the IPEDS data system of the National Center for Educational Statistics. Longitudinal data on Instructional Programs and Degree Completions are available in MetriDoc.

Figures 50, 52, 53, and 54 are based on analysis completed with the Dimensions Database.

NB: Systems like Dimensions are known to have weak coverage of fields in the humanities and under represent the scholarly output of those fields. This weakness is mitigated by the inclusion of AltMetrics data available from Dimensions. While these figures may provide a less than comprehensive view of Penn research, they do capture the research-intensive fields that are especially prevalent at Penn and most reflected in the Libraries usage data.

Figure 51

The chart is sourced from the "Higher Education Research and Development Survey" (HERD). 2022 is the latest available data.

The Penn population figures used throughout the booklet are from the Office of Institutional Research and Analysis (see <https://www.upenn.edu/about/facts>)

Graphs in this publication were created in *Origin 2024* and prepared for printing in Adobe Photoshop. Maps were generated in Jupyter Notebooks using the Python@Plotly package and Tableau.

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