Campus Wide Space Allocation

December 13, 2018







The UH Mānoa campus is composed of 15 different space types, which amount to almost 7 million (6,901,980 ASF) of net assignable square footage (ASF). The primary facilities include Academic & Administrative Space, Residential Space and Athletic Space.

In this quantitative analysis, each primary space type is evaluated against key performance indicators. The indicators are used to assess whether the current campus space is performing to its potential. These indicators evaluate for space optimization, adaptability to emerging trends, adherence to industry or university space standards and benchmark universities, and assess whether current space reflects the core mission of the university and the guiding principles of the Mānoa Framework for the Future.

Current space use along with key findings from the analysis are presented below and on the right.

CURRENT SPACE USE BY SPACE TYPE (SF)

Academic & Administrative Space



Residential Space

KEY TAKEAWAYS

- CAMPUS
- STORAGE
 - WORK FUNCTIONS
- GROWTH



SPACE UTILIZATION OF CLASSROOMS AND CLASS LABS IS LOW

RESEARCH SPACE IS DISPERSED ACROSS

3. 65% OF LIBRARY SPACE IS USED FOR

4 OFFICE SIZES VARY WIDELY ACROSS

5. ON-CAMPUS HOUSING IS AVAILABLE FOR 21% OF THE STUDENT BODY AND DEMAND FOR STUDENT HOUSING HAS INCREASED OVER TIME, DESPITE NO ENROLLMENT

SPACE TYPE DEFINITIONS

Below are definitions for each space type, according to the National Center for Education Statistics (NCES).

CLASSROOMS

A room or space used primarily for instruction classes and that is not tied to a specific subject or discipline by equipment in the room or the configuration of the space.

CLASS LABORATORY

A space used primarily for formally or regularly scheduled instruction (including associated mandatory, but non-credit-earning laboratories) that require special purpose equipment or a specific space configuration for student participation, experimentation, observation, or practice in an academic discipline.

RESEARCH LABS

A space used for laboratory experimentation, research, or training in research methods; professional research and observation; or structured creative activity within a specific program or for sponsored research (whether sponsored with federal, state, private, or institutional funds).

STUDY FACILITIES (NON-STACK)

A room or area used by individuals to study at their convenience, the space not being restricted to a particular subject or discipline by contained equipment.

STUDY FACILITIES (STACK)

A space used to house arranged collections of educational materials for use as a study resource.

OPEN LABORATORY

A laboratory used primarily for individual or group instruction that is informally scheduled, unscheduled, or open.

OFFICE FACILITIES

A space housing faculty, staff, or students working at one or more desks, tables, or workstations.

CONFERENCE ROOM

activities.

RESIDENTIAL FACILITIES

Residential facilities include housing for students, faculty, staff, and visitors to the institution.

ATHLETIC SPACE

Source: National Center for Education Statistics (NCES) Space Use Codes: Definitions, Descriptions, and Limitations



A space serving an office complex and used primarily for staff meetings and departmental

A room or area used by students, staff, or the public for athletic or physical education activities.

Classrooms & Class Labs

Academic & Administrative Space

SPACE EFFICIENCIES

Finding: Current utilization & occupancy rates reveal opportunities to right-size spaces to improve space efficiencies and optimize resource use.

Utilization and Occupancy Rates at UH Mānoa

2016-17 Academic Year



Source: R25/Banner Scheduling System, 2016-17 Academic Year



REMOTE LEARNING TRENDS

Finding: Remote learning is on the rise and digital service delivery of lecture content will need to be accommodated for in the future.

Nation-Wide Remote Learning Trends, 2015

Remote Learning Across Public Higher-Ed Institutions, Fall 2015 (National Center for Education Statistics (NCES))



Research Labs

Academic & Administrative Space

DISTRIBUTION OF RESEARCH SPACE ON CAMPUS

Finding: Research space is distributed across several zones on the Mānoa campus, with 55% of space located on the Central Campus and 45% located on the Upper Campus. Additionally, total research area is greatest in the College of Natural Sciences, College of Tropical Agricultural & Human Resources, and School of Ocean & Earth Science & Technology.

Research Space by University/College

Total Research Area (SF) by University/College



Research Space Across Campus

Total Area: 497.936 SF



Central Campus: 227,936 SF (55%) **Upper Campus:** 187,534 SF (45%) **COE:** 1,053 SF (0%)

RESEARCH LABS: SPACE & ENROLLMENT HOURS

Finding: 6% of total campus assignable space (ASF) is dedicated to research labs, as opposed to 15% among other prominent research institutions. In an average semester, 0.1% of total instructional time is spent in research labs.

Research Space to Total Campus Campus ASF



OTHER PROMINENT RESEARCH UNIVERSITIES (UC BERKELEY, MIT, UMICH)



Source: NCES InfoBrief (https://www.nsf.gov/statistics/2017/nsf17315/nsf17315.pdf)



Study Space

Academic & Administrative Space

LIBRARY SPACE DISTRIBUTION

Finding: There is about two times more storage space than collaborative study space in on-campus libraries. Improving storage efficiencies allows for increases in collaboration space, enhancing on-campus student life.

223,878 SF



MORE COLLABORATION SPACE THROUGH DIGITIZATION

Finding: There is currently 12 SF of general use space per student (i.e. student centers, recreational areas). The amount of collaboration space can increase by optimizing storage of library collections and increasing the amount of online collections.

Key Facts

Study Facilities

Current Area (SF) 346.699 SF

Total Students

Current Area (SF) per Students 20 SF / Student

Current Area (SF) 210.433 SF **Total Students** 17.612

12 SF / Student

Use of digital collections is on the rise.

In a study of Yale Universities' Academic Research libraries, it was found that the use of electronic collections far outweighs that of print publications. In 2014, there were more than 8 million article downloads, 2.75 million book/chapter downloads, and 0.4 million total use of print collections.

Source: Linden, 2018 (College Research & Libraries)



General Use Facilities

Current Area (SF) per Students



Office Environments - Offices

Academic & Administrative Space

VARIABILITY IN OFFICE SIZES

Finding: There is significant variability in current office sizes, for both academic and administrative offices. The average office size per employee is 205 SF. For academic offices, the average office size per building is 255 SF, while for administrative offices, the average office size per building is 186 SF.

Office Size Variability

Average Office Size (SF) per Building & Type *UH Space Standards are shown in green for reference





Academic Offices

Administrative Offices

Finding: Applying UHM office space standards by employee function can help reduce variability and lead to space gains that open up room for other space types. **Office Size Standardized** Average Office Size (SF) per FTE employee





OFFICES, **STANDARDS**

*More information at manoa. hawaii.edu; UHM Space Guidelines





OFFICE SIZES, STANDARDIZED

OFFICE SIZE PER FTE

97 SF per FTE

1. OPPORTUNITIES TO OPTIMIZE SPACE & **RESOURCE USE**

2. OPPORTUNITIES TO ADD OTHER SPACE **TYPES (I.E. MEETING ROOMS)**

Office Environments - Meeting Rooms

Academic & Administrative Space

LIMITED FORMAL MEETING ROOMS & COLLABORATIVE SPACES

Finding: The current quantity of conference rooms falls short of the university's space standard. The current conference room area (SF) per employee FTE ratio is 17 SF/FTE, as compared to the UHM conference room standard of 25 SF/FTE.



DEMAND FOR MEETING ROOMS

Finding: Meeting rooms are highly valuable to faculty. According to the UHM Faculty Survey, formal meeting spaces were the favored workplace typology, with 407 respondents claiming that they are essential or somewhat important.

Future Workplace Typologies



Faculty Ranking of Future Workplace Typologies *from UHM Faculty Survey of Facilities,

Formal Meeting Space, Individual/Private Workspaces, and Small Group Learning Spaces are the most favored workplace typologies

Student & Faculty Residential Space

Residential Space

OPPORTUNITIES TO INCREASE ON-CAMPUS STUDENT LIVING

Finding: Today, on-campus residential space accommodates 21% of the total student body. Additionally, housing demand has increased over time, with a 23% growth in applications for student housing from 2009 to 2014, despite no growth in enrollment.

On-Campus Student Housing

Total Students Living On-Campus (2015 Mānoa Student Housing Study)



campus,

62% are lower classmen

• 36% are upper classmen • 2% are graduate/family

Live On Campus: 3,743-Live Off Campus: 13,869

Student Housing Demand

Total Student Applications Over Time (2015 Mānoa Student Housing Study)

Between 2009 and 2014, application for student housing increased 23% with no significant changes in student body size



FACULTY HOUSING

Finding: Faculty housing is almost fully occupied. From 2013 to 2017, faculty housing occupancy has remained above 97.5%, revealing that any additional housing demand cannot be adequately supported with the current faculty housing stock.

Faculty Housing Occupancy

Units Occupied vs. Units Available







Student & Faculty Residential Space (Cont'd.)

Residential Space

STUDENT HOUSING BENCHMARK COMPARISONS

Finding: The university campus currently accommodates 21% of total students, where a majority of students living on-campus (98%) are undergraduates. In comparison, the University of California (UC) system-wide accommodates about 34% of students with on-campus housing. The proportion of students living on-campus also varies for other benchmark universities, ranging from 27% at UC Santa Barbara (UCSB) to 73% at Stanford University.

On-Campus Student Housing

Total Students Living On-Campus (2015 Mānoa Student Housing Study)

University of Hawai'i at Mānoa



On-Campus Student Housing

Total Students Living On-Campus -UC-System Wide Average

UC System-Wide Average



On-Campus Student Housing

Total Students Living On-Campus -Other Benchmark Universities





THINK

*To note, total students on-campus only includes university-supported housing

Athletic Space

SATISFACTORY ATHLETIC SPACE

Finding: With 17 SF of athletic space per student, the current quantity of athletic facilities is sufficient to support ongoing athletic activities on campus. Additionally, the breakdown of athletic facilities by space type reveals that the current university space adequately caters to the varied space requirements, such as fields, spectator seating, and service areas.

Key Facts Athletic Space		Research Space to Total Campus Proportion of Research Space to Total Campus Space	Athletic Space Type Breakdown Area (SF) per Athletic Space Type		
Current Area (SF)	300,438 SF	UH MĀNOA PROPORTION OF ATHLETIC SPACE TO TOTAL			
Total Students	17,612	CAMPUS AREA	49,921	128,796	121,721
Current Area (SF) per Students	17 SF / Student				
			 Spectator Seating Athletic or Physical Education Spaces Athletic Service Areas 		
			There is sufficient variety in the types of athletic spaces available to meet the unique space needs		





of athletic activities

CAMPUS SPACE NEEDS FORECAST

Overview

The Campus Space Needs Forecast for primary academic facilities is driven by the following improvements:

- Space utilization and efficiency
- Increases in the amount of collaborative space for meetings, study or recreational activities/ leisure to enhance on-campus life & student experience
- Enhancements to the quality and quantity of research space
- Improvements to circulation efficiency
- Decreased reliance on portables

In the long-term, space for primary academic facilities may decrease up to 500,000 SF, which is about an 13% reduction.

High Quality, High Utilization Space (Illustrative)



The following space types are not included in the above diagram: Health care facilities, parking, residential facilities, special use facilities, support facilities



• Transforming pedagogies shift composition of space

• High quality conference and meeting space