

Can You Trust Your Space Inventory Data?

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Introduction

Data-informed decision-making depends on reliable data, and an institution's space inventory is among its most fundamental datasets. Complete and accurate space records are essential for higher education institutions to adapt in a rapidly changing environment. What information matters? How do we create and maintain effective databases?

College and universities face enormous pressures and a high level of uncertainty today: the public questioning the value of higher education, demographic shifts creating more competition for a shrinking population of high-school graduates, increasing government scrutiny of institutional policies and operations, expectations for quick responses to these complicated challenges, and reduced resources (human and financial) to meet these challenges. While not a magic bullet, having good-quality, accessible data can help institutions be nimbler and make better decisions to optimize efficiency and effectiveness.

Why is a Space Inventory Needed?

Campus space is one of an institution's most expensive and valued assets. As any higher education administrator can tell you, every faculty and staff member wants an office at the center of campus, a parking space right outside the door, and, for faculty, their lab and classrooms just a few steps away. Since this is not possible, academic and administrative leaders need a reliable, defensible system for tracking and assigning space.

How much space do you have? Of what types? How is it distributed by building and floor? To which department or unit is each space assigned? Is it assigned equitably? How large is each space? What is its capacity? Who occupies each office and research lab? Which spaces are currently available for reassignment? The answers to these questions and more can be found in an accurate space database. Effective space management – optimizing campus space use in service of institutional objectives – is grounded in solid data.

In addition, a complete and accurate space inventory should be the foundation for multiple mission-critical campus operations and systems. These include academic course scheduling, event scheduling, facilities work-order management, IT/telecommunications management, fire and life safety management, and indirect cost recovery for government-funded research. By having everyone from the Registrar to IT use the same data, the institution can be more efficient and reduce or eliminate miscommunication caused by siloed systems. An accurate space inventory is also fundamental to supporting reaccreditation self-studies that specifically assess the data resources used to inform institutional decision-making.

A Brief History

In the 1950s, colleges and universities began conducting manual space inventories and utilization studies to understand instructional capacity and guide campus expansion as Baby Boomers began flooding higher education. A landmark milestone was the 1957 *Manual for Studies of Space Utilization in Colleges and Universities*, which compiled standardized

methodologies and comparative data from more than 100 institutions based on studies conducted between 1951 and 1955. At this stage, space inventories were typically episodic, paper-based efforts undertaken for self-study and benchmarking, not continuously maintained institutional systems.

During the late 1960s and 1970s, space inventories began to shift from occasional studies to more regularized administrative processes, particularly at large public and research-intensive universities. Advances in mainframe computing enabled institutions to develop early computerized space inventory and utilization systems, allowing for repeatable reporting and management review. This period also coincided with rapid post-war campus growth and increasing concern over the cost and efficiency of physical assets. While adoption was uneven, a growing number of universities began treating space data as a continuous operational resource rather than an ad hoc planning input.

A major inflection point occurred in the 1970s and 1980s as federal accountability requirements drove the need for consistent, defensible space data. The introduction of federal indirect cost recovery rules required universities to document how space was used in support of instruction, research, and other activities. In parallel, national standards for space classification and measurement were formalized through the U.S. Office of Education and later the National Center for Education Statistics, culminating in the first edition of the *Higher Education Facilities Inventory and Classification Manual* (FICM) in 1973 and its subsequent revision in 1992. These developments effectively made systematic space inventories a requirement for federally funded research institutions.

Elements of an Effective Space Inventory

A space inventory is the room-by-room listing of building, floor, room name and number, and assignable square footage, including the space type (FICM code). It may also include each room's name, capacity, departmental assignment, and the current occupant (for offices and research labs). At its most basic, the inventory is an Excel spreadsheet while a relational database alternative provides a more sophisticated inventory that can be queried. The data becomes most useful when digitally linked to building floor plans, providing both tabular and graphic data on space location, size, use, and occupancy. There are multiple commercial software platforms that provide this integration.

Assignable square footage (ASF) is the interior area of a room or space available for assignment and use. It is distinguished from gross square footage (GSF) by excluding non-assignable areas, such as corridors, restrooms, and mechanical spaces, as well as the building structure, such as walls and columns. ASF is the fundamental measurement for space categorization and management. By excluding non-assignable square footage, it allows spaces to be compared regardless of the specifics of a building's design.

Higher education space is categorized according to the industry-standard FICM coding structure, a three-digit code that breaks down assignable space into 10 major space categories ("100" Classrooms, "200" Laboratory Facilities, "300 Office Facilities", etc.), each of which is subdivided into a series of subcategories (i.e., "210" Class Laboratory, "220" Open Laboratory,

“250” Research/Nonclass Laboratory, etc.). This system enables planners to understand and analyze current space and to conduct standardized comparisons of space types within a college or university, as well as to benchmark against other institutions.

Challenges to Maintain Inventory

Maintaining an up-to-date space inventory allows the institution to remain current regarding what it has, track trends, find spatial opportunities, and engage in short- and long-term facilities planning. Along with personnel, enrollment, and course registration data (which is grounded in instructional space data), a current space inventory is fundamental for developing a data-driven, actionable campus master plan. When an institution initiates master planning, the process is often slowed by the planning consultant’s need to verify and correct, enhance, or even create a usable space inventory. And too often, once the master planning work has been completed, the space inventory is not kept current.

Given all the pressures on higher education institutions, it is understandable that data maintenance can be neglected. There never seems to be enough personnel, and current employees may not have the necessary skill sets to conduct updates effectively. In addition to staffing concerns, facilities managers may not see the importance of devoting time to maintaining data when they are faced with a steam line break, leaking roofs, or summer projects that must be completed before the start of the fall semester. However, when senior administration, a government agency, or an accreditor needs space- and occupancy-related answers, academic and facilities teams may have to scramble to respond. This can lead to costly and politically damaging delays, inadequate responses, or a reliance on gut instincts rather than solid data. Missed or fumbled opportunities can be very damaging to an institution and its leaders.

How a “Data Tune-up” Can Help

Bringing in outside assistance to perform a periodic “data tune-up” can be a cost-effective way to keep an institution’s data from getting too far out of alignment with changes made to facilities and space assignments. A tune-up prior to engaging in a master plan or other significant space analysis will expedite the planning engagement and make efficient use of outside consultants and in-house personnel. Even in between major strategic studies, tuning up space inventory data will support confident, responsive operational decision-making.

The “tune-up” entails updating the inventory to reflect renovations, repurposing, relocations, and personnel changes not reflected in the existing inventory. The process includes data gathering from multiple sources -- drawings, documents, and targeted interviews, correcting each relevant field in the database, and confirming the changes with an on-site visit. The updated data will enable the institution and its consultants to conduct multiple layers of analysis, benchmark more accurately, and plan more efficiently at every scale.

Rickes Associates has been solely dedicated to higher education space planning, programming, and analysis for 35 years, working at over 300 institutions across the United States and internationally. The firm has deep experience creating, correcting, enhancing, and analyzing

space inventories. Rickes Associates can help you stay on top of your data, so you are ready for master planning, your self-study, and robust data-informed decision support.