



Cornell University

Guidelines for Space Needs Studies

Approved by the Capital Funding & Priorities Committee; 9/26/11

INTENT

Develop a standard process, including standardized documentation, to assess existing space utilization and analyze space needs.

OUTCOMES

1. Create a consistent framework, based on Cornell standards, policies and institutional data-of-record.
2. Exercise due diligence in the assessment of existing utilization as well as the establishment of space needs.
3. Integrate programmatic mission and strategic objectives into the space planning process
4. Measure the space program development through the course of a project against the original space program objectives.
5. Create transparency for approved deviations from Cornell space standards.
6. Create space program documentation that is concise, clear and actionable.

CONTEXT

Capital Projects & Planning (CP&P, in Facilities Services) has identified what is currently a six-step process for unit master plans:

- I. College/Division Profile**
- II. Assessment of Existing Program and Space Utilization**
- III. Analysis of Space Needs Based on Strategic Vision**
- IV. Facilities Existing Condition Assessment
- V. Space Study/Facilities Renovation Plan Concept Alternatives
- VI. Space Study/Facilities Renovation Plan Final Recommendation

Space needs studies may be conducted as part of an overall master planning process (in phases I, II and III, as highlighted above), or they may stand alone to support particular initiatives. Should they stand alone, they may drive subsequent projects, particularly if the space needs study identifies a shortfall of space. The subsequent projects are expected to follow the CP&P expectations for the consideration of concept alternatives before a final recommendation is selected.

PROCESS

- The Space Management Program Manager and the University Architect will consult with units during the annual development of the capital plan to recommend those cases in which a space needs study should serve as the first phase of one or more unit capital projects. A space needs study will typically be recommended in cases where the unit already perceives a shortfall of space or is projecting a shortfall of space based on new programmatic initiatives and where the unit believes new space (constructed or annexed) is necessary.
- Space needs studies that exceed the PAR threshold will follow these guidelines.
- The Space Use Advisory Committee (SUAC) will meet with the unit and review the PAR before the PAR is fully approved. The purpose of such a meeting is for the SUAC to understand the issues that the unit hopes to resolve through the study and for the unit to hear from the SUAC regarding broader contextual issues.
- The SUAC will meet with the unit again at the end of the study, to hear a report and to discuss the implications and next steps with the unit.
- Presentations to the SUAC are part of the capital project review and approval process. The SUAC advises the Capital Planning Group (CPG) and the Capital Funding & Priorities Committee (CF&PC) regarding projects it reviews.
- Cross-functional working groups will advise space needs studies. The groups should include, at a minimum, representation from the office of the University Architect and the Space Management Program Manager. Units may wish to add representatives from other units or functions that might best inform the study through active involvement. Alternatively, other units or functions may be consulted through the study process.
- Where the study involves the use of classrooms, X25 (the classroom analytic tool licensed by Cornell) should provide the standard classroom analytics. The X25 analysis should include not only the rooms within the unit of study, but also rooms within a reasonable walking distance of the unit.
- The specific elements that should be considered in a space needs study are included in Appendix A.

EXPLORATION OF ALTERNATIVES TO MEET SPACE NEEDS

The process for exploring these alternative strategies to meet space needs is developed and coordinated by various units within Facilities Services. The work to develop alternatives may not be a part of the space needs study phase itself, but may follow such studies, and should therefore be consistent and coordinated with the results of the space needs analyses.

When space needs studies determine a shortfall of space, by type or quantity or both, then the analyses and documentation developed through the study should inform a consideration of alternatives to meet the space need when the unit is ready to address the shortfall. The alternatives explored should include at least a few of the following options:

- Academic and other programmatic strategies (such as time of day utilization, alternative work locations, etc.)
- Use of nearby space
- Lease/rent
- Real property acquisition
- Relocation
- Renovation
- Construction

The consideration of all alternatives should identify and weigh the institutional impacts, particularly on capital costs, operational and maintenance costs, and staffing support.

RENOVATION/NEW CONSTRUCTION

Renovation and/or new construction projects are coordinated through several units in Facilities Services. When the only viable alternative to resolving a space need is renovation and/or new construction, such work should be based on previous efforts to understand the space needs.

When space needs studies develop into construction or renovation projects, then mindfulness toward the space program is incorporated through each design phase. Design documents, at each submittal, should include:

- Diagrammatic plans illustrating spatial relationships
- Room specifications (type, size, function)
- Capacity (number of stations)
- Special equipment or facility needs
- Functional relationships between rooms
- Gap analysis (to identify and explain deviations from space requirements document; progressed through each phase)
- Ongoing assessment of institutional impacts, including capital budgets, operations and maintenance budgets, and staffing support requirements

RESOURCES

Space needs studies should reference these resources:

- Cornell Policy 2.7: *defines Cornell-specific room types, functional codes, and code definitions*
- Cornell Space Guidelines, 1994
- Peer benchmarks: *where available and applicable; benchmarks are particularly useful for research space, or other specialized space types or programs*
- Postsecondary Education Facilities Inventory and Classification Manual (FICM) (2006 Edition): *defines standard practices in U.S. higher education for initiating, conducting, reporting, and maintaining an institutional facilities inventory, including building-level data elements*

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Appendix A: Specific Elements of Space Needs Studies

Space needs studies should consider for inclusion the elements discussed in this section. The relevant elements will be evaluated on a project-by-project basis by the Space Management Program Manager and the University Architect and discussed with the unit. The included items may be specified in the consultant selection and/or contractual process. These details are subject to revision based on experience and the specific circumstances of each study.

- A. Assessment of Existing Conditions
 - Analysis of how existing space accommodates functional programs of concern and/or affected by proposed changes
 - I. Assess quantity, quality and utilization of existing space
 - a. Quantitative summaries and statistics by type, function, unit, etc.
 - b. Functionality/suitability/effectiveness
 - c. Utilization and utilization capacities
 - d. Physical location, including adjacencies
 - e. Physical condition
 - f. Operational issues, such as security, building code, accessibility, life safety or health deficiencies
 - II. Use existing data where available and deemed sufficient; include as many of the following as necessary
 - a. Facilities Inventory data (most recent snapshot data)
 - b. Floor plans
 - c. Course and classroom data (from University Registrar and unit)
 - d. Event data
 - e. Walkthrough data (visual review)
 - f. Previous planning studies, if available and applicable
 - III. Identify opportunities and constraints, including fit to function of current space
- B. Confirmation phase
 - Document and confirm through the organizational hierarchy:
 - I. Staffing projections
 - a. Presented in organizational chart format
 - b. FTE
 - c. Headcount
 - II. Enrollment projections
 - a. FTE
 - b. Headcount
 - III. Functional program scope: related to unit strategic plan
 - a. Note areas of growth and decline, by department and/or program element
- C. Develop space requirements
 - I. Basis
 - a. Cornell space guidelines
 - b. Unit specific guidelines (if applicable)
 - c. Peer benchmarks
 - i. Research laboratories
 - ii. Specialized spaces
 - d. Building efficiency requirements (*to be developed*)

- e. X25 standard analyses for classrooms
- II. Establish requirements
 - a. Room specifications
 - i. Size
 - ii. Features
 - iii. Capacity
 - b. Spatial relationships/adjacencies, represented in graphic format
 - c. Special design requirements
 - d. Classroom utilization objectives
 - e. For other meeting spaces (seminar rooms, conference rooms, etc.)
 - i. Seat count
 - ii. Square feet/seat
- D. Report: Discuss ability of current space to meet needs and determine gaps
 - I. Added, reduced or reconfigured square footage NASF¹
 - II. Added, reduced or reconfigured square footage GSF¹
 - III. Efficiency
 - a. Building efficiency (Net/Gross, NASF/Gross)
 - b. Suite efficiencies
 - IV. By functional program element
 - a. HEGIS¹ code functions
 - b. Compare to standards/benchmarks
 - V. By space type
 - a. HEGIS code room types
 - b. Compare to standards/benchmarks
 - VI. Functional relationships between spaces, represented in graphic format
 - VII. Identify and explain deviations from Cornell space guidelines

¹ **HEGIS:** The Higher Education General Information Survey: standardized coding for higher education; basis of Cornell facilities inventory