UCSF Research & Administrative Space Policy Working Group

Final Report

June 30, 2018

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Background

The Research and Administrative Space Policy Working Group (RASP) was a temporary task force established in August 2017 in response to a growing sense of urgency around the efficiency of UCSF's research and administrative space use. The project was co-sponsored by Executive Vice Chancellor and Provost Daniel Lowenstein, Senior Vice Chancellor Paul Jenny, and School of Medicine Vice Dean Bruce Wintroub. The UCSF Program Management Office (PMO) was engaged to coordinate the work group and facilitate its meetings.

Precipitating Events

- **Data from Campus Space Walks:** In 2016, senior UCSF leaders conducted a comprehensive survey of the campus' research space, including physical "space walks" wherein they documented each area's apparent utilization. Based on this effort, Campus Planning estimated that approximately 45% of the campus' research space is currently underutilized.
- **Unfillable Space Requests:** Deans and other senior campus leaders, as well as staff in Campus Planning and members of the Space Management Subcommittee, all report that they regularly receive requests for space from faculty and staff that they are unable to fulfill because no unassigned space is available that meets the needs of the request. Campus Planning currently maintains a significant backlog of space requests that both individual Control Points and the Space Management Subcommittee have been unable to fill.
- **Space Assignment Kaizen:** In June 2017, the PMO facilitated a three-day kaizen (improvement workshop) on the campus' process for assigning and managing research and administrative space. The outcomes from this event included a comprehensive assessment of the root causes contributing to UCSF's "space liquidity crisis" (i.e., campus leaders' ongoing inability to fulfill requests for new space), a future state vision for UCSF space governance and management, and an action plan for achieving that vision. The kaizen findings are summarized in the attached A3 document (see Appendix I).
- **Imminent Need for Parnassus Campus Renewal:** Given the age and general condition of many of its buildings, campus leadership recognizes the imminent need for substantial capital renewal of the Parnassus Heights campus. Such a renewal will require the decant of significant segments of Parnassus, and the concurrent re-allocation of existing research and administrative space to accommodate temporarily displaced faculty and staff.

As a result of the aforementioned events, the RASP Work Group was formed to develop recommendations which could address some of the identified problems, including the underutilization of research and administrative space, the recovery of underutilized space to meet space requests and needs, and space data inaccuracy. Addressing these problems would also help to vacate space at Parnassus which needs to be renewed.

Work Group Charge

A. *Recommend metrics and associated targets to objectively measure the utilization and productivity of campus research and administrative space.*

B. *Recommend revisions to campus space policy. Define vague terms, clarify responsibility for enforcement actions, consider specific policy changes proposed during June 2017 kaizen.*

C. *Revise space governance structure and clarify roles and responsibilities.*

SUMMARY RECOMMENDATIONS

A. Recommend metrics and associated targets to objectively measure the utilization and productivity of campus research and administrative space.

Research Space Metrics

Establish an annual, campus-wide review process to assess the utilization and productivity of each School and Department's research space. Augment the current Indirect Cost Recovery (ICR)/Assignable Square Foot (ASF) metric with a panel of additional metrics that collectively describe the financial productivity of the space assigned to a control point or department.

The accuracy of the ICR/ASF metric can be significantly improved by setting different targets for wet and dry lab space, as an acknowledgement of the differing rates of ICR that these lab types are expected to generate (dry labs generate higher ICR/ASF). The ICR/ASF metric and the Expenditures/ASF metrics ([2] and [3] below) can be expressed respectively in terms of an ICR or Expenditures "Health Index," providing a single composite view of a given unit's performance based on the type of space assigned to it (e.g., % wet vs dry labs). The Health Index allows for a more apples to apples comparison of units and PIs with different types of space. Health Index scores are expressed on a scale from 0 (poor) to 1 (excellent). Scores above 1 are possible for units surpassing the established target.

The full set of recommended complementary metrics is tabulated below:

Table 1
Research Space Financial Health Dashboard

ID No.	Metric Name	Shorthand	Notes
[1]	Rooms designated "PI Assignment Pending" for >2 Years	Dormant Space	Indicates rooms that have been "dormant" (i.e., not utilized) for a significant period of time
[2]	Indirect Cost Recovery per Assignable Square Foot (ASF) *(3-Year Rolling Average)*	ICR / ASF	Indicates how much a School or Department is contributing to the campus' financial sustainability – i.e. helping to cover the finance and administrative costs of assigned research space. For simplicity, metric can be expressed as a single weighted "ICR/ASF Health Index" score (0 to 1 scale).
[3]	Expenditures per ASF or per Workstation[1] *(3-Year Rolling Average)*	EXP / ASF	Proxy for research activity ("utilization"). Excludes ICR. For simplicity, metric can be expressed as a single weighted "Expenditures/ASF Health Index" score (0 to 1 scale).
[4]	Percentage of ASF designated PI Assignment Pending (PIP)	% PIP	Indicates the proportion of a School or Department's research space not assigned to a PI (i.e., not "utilized")

[1] For simplicity, this metric will be referred to as Expenditures/ASF in this document.

[5]	***ASF per Occupant***	*ASF / Occ*	Proxy for actual utilization *Occupancy data quality currently insufficient, see recommendations re: Archibus data maintenance)*
[6]	***Scientific / Educational Productivity***	*TBD*	*To be considered by chairs or directors as a mitigating factor if other metrics are below target*

1. Setting Targets for Metrics
   a. Establish a target or target range for each metric
   b. Consider indexing appropriate metrics to the Higher Education Price Index to account for the effect of inflation over time (e.g. ICR, Expenditures)

2. Applying Metrics
   Conduct the following process on an annual basis using data provided by Budget & Resource Management. Note that dormant space is considered first (by itself). After this, four metrics (ICR, Expenditures, % PI Pending, and Occupancy) are considered together as a group. Note that "ASF / Occupant" currently lacks sufficiently accurate data to be used. RASP does not have recommendations for how to formally incorporate scientific or educational productivity into this assessment, except to suggest that Chairs and Directors take such factors into account when deciding how to assign or recapture space from a PI.

   a. Identify units with dormant space and initiate a conversation about whether and how to adjust the unit's space assignment (metric [1]).
      - For dormant space assigned to Departments, one possible outcome may entail relinquishing space to School.
      - For dormant space assigned to Schools, one possible outcome may entail relinquishing space to Chancellor.
      - Alternatively, the unit's space assignment may NOT be adjusted, if they elect to fill the space as part of their remediation plan.
   b. For units that miss a pre-determined number of targets (TBD by campus/school leadership) for metrics [2], [3], [4], and [5], initiate a conversation about whether and how to adjust the unit's space assignment:
      - For underutilized / underproductive space assigned to Departments, possible consequences include relinquishing sufficient space to the School so that the Department no longer misses more than one of targets [2], [3], [4], or [5].
      - For underutilized / underproductive space assigned to Schools, possible consequences include relinquishing sufficient space to the Chancellor so that the School no longer misses more than one of targets [2], [3], [4], or [5].
      - Alternatively, the unit's space assignment may NOT be adjusted, if they elect to fill the space or increase the research revenue of that space as part of their remediation plan.
   c. When evaluating space productivity and utilization, leadership should consider additional criteria such as:
      - Scientific productivity of assigned space
      - Educational impact of assigned space
      - PI career stage
      - Condition of space

- Location and configuration of space
- Type of research conducted in the space (e.g., basic, translational, clinical)
- "Scientific neighborhoods"

d. Make annual School- and Department-level summary dashboard data available to be viewed by all members of the UCSF community (for the sake of data transparency).
e. Enable individual PIs and space managers to view their own detailed annual data on the space assigned to them.

Tables 2 and 3
Sample Research Space Financial Health Dashboards (FY17 Data)

Table 2 CAMPUS VIEW *Used to assess Schools*								
School	ICR/ASF	% Wet Space	% Dry Space	ICR/ASF Health Index [2]	Exp./ASF Health Index [3]	Total Assignment Pending (AP) ASF	%AP of Total ASF [4]	ASF / Occupant [5]
School of Dentistry	$143	85%	15%	.72	1.00	18,706	31%	*N/A*
School of Medicine	$170	70%	30%	1.02	1.00	197,352	15%	*N/A*
School of Nursing	$164	0%	100%	.64	1.00	869	3%	*N/A*
School of Pharmacy	$138	78%	22%	1.09	1.00	13,717	11%	*N/A*
Campus Total*	$166	70%	30%	1.00	n/a	234,246	16%	*N/A*

**Includes other academic units (Proctor, QB3, and Global Health Sciences)*

Table 3 SCHOOL VIEW *Used to assess departments/ORUs. For demonstration purposes, this version shows an array of selected units from multiple schools rather than all departments for a single school.*								
Department / ORU	ICR/ASF	% Wet Space	% Dry Space	ICR/ASF Health Index [2]	Exp./ASF Health Index [3]	Total PI Pending ASF	%AP of Total ASF [4]	ASF / Occupant [5]
D_OFS	$155	75%	25%	.22	1.88	1,737	14%	*N/A*
D_OMFS	$675	100%	0%	6.02	4.11	-	0%	*N/A*
M_Anesthesia	$117	91%	9%	.82	.71	1,062	5%	*N/A*
M_CVRI	$77	62%	38%	.08	.43	26,959	37%	*N/A*
M_MEDICINE	$254	63%	37%	1.68	1.54	14,604	6%	*N/A*
N_Physio. Nursing	$206	0%	100%	1.77	1.11	90	1%	*N/A*
P_Bioengin.	$159	79%	21%	1.23	1.09	3,155	6%	*N/A*
P_Clinical Pharmacy	$273	54%	46%	1.43	2.70	2,710	43%	*N/A*

Administrative Space Metrics

RASP recommends that campus leaders establish an objective method for evaluating the utilization of administrative space. These metrics can be used to identify "outlier" areas and units who may either need additional space or who may have been assigned more space than they need. Leadership can also incorporate these metrics into needs assessments when considering whether to buy, lease, or construct additional space.

Unfortunately, certain metrics recommended in this section are not available for immediate use because existing data is not accurate enough to rely on. RASP provides recommendations in the next section for how to improve the quality of this data.

Use the following three metrics to assess the utilization of administrative space:

Table 4 Administrative Space Metrics			
ID No.	Metric Name	Shorthand	Notes
[A]	ASF per Occupant	ASF / Occ	Measures the "people density" of a given area (proxy for utilization) *Occupancy data quality currently insufficient, see recommendations re: Archibus data maintenance*
[B]	ASF per Workstation	ASF / Wkstn	Measures an area's workspace configuration (i.e., how big are workstations?)
[C]	Occupant per Workstation	Occ / Wkstn	Measures an area's current utilization versus capacity *Occupancy data quality currently insufficient, see recommendations re: Archibus data maintenance*

1. Applying Administrative Space Metrics
   a. Conduct the following steps on a regular or as-needed basis:
      I. Track the average respective measurements of metrics [A], [B], and [C] for each **building**
      II. Track the average respective measurements of metrics [A], [B], and [C] for each Department and Control Point's assigned administrative space within each building
      III. Compare each occupant Department and Control Point's measurements for metrics [A-C] against the building average (or associated target) to identify under/over-performers **in a specific building**. Use this information to inform space assignment decisions (including the potential relinquishment of underutilized space).
   a. Publish administrative space metrics as defined above on an annual basis for informational purposes, viewable by all UCSF.

Improving Archibus Data Integrity

The campus conducts an annual space survey and prepares a report of all UCSF space (campus, UCSF Health) in the fall, for submittal to the University of California, Office of the President. The campus relies on the schools and control points, and their respective departments to update the space data as part of the annual space survey.

260 departmental space coordinators currently share responsibility for inputting their respective units' space assignment and occupancy data into Archibus. For most coordinators, this role is a very small portion of their overall job that they conduct infrequently. This leads to high variability in the accuracy of Archibus data, particularly with regard to occupancy because people frequently move. While RASP recommends using occupancy data for both research and administrative metrics, current data quality is so low that it cannot be relied upon.

To improve the quality of occupancy data, RASP recommends testing a new approach to maintaining accurate space assignment and occupancy data in Archibus, by re-assigning responsibility for these tasks to a centrally administered "occupancy planner" unit.

RASP recommends implementing a yearlong pilot program at Parnassus Heights:
At Parnassus, replace the role currently played by department appointed space coordinators with a team of three centrally administered, site-based occupancy planners responsible for maintaining space assignment and occupancy data in Archibus.

- Planners are employed by a central administrative unit (e.g. Real Estate)
- Assign responsibility for collecting and maintaining space and occupancy data in Archibus by geography / square footage (e.g. by building or floor)
- Planners will consult with lab managers and local staff to gather detailed information
- Department managers (e.g. MSOs) and Space Coordinators will no longer be responsible for the input of space data in Archibus for Parnassus locations, but may review and validate space data input by planner

Assumptions:

- Expected salary for an occupancy planner with 5 years' experience is $95,000
    - Total estimated annual compensation cost for three planners (assuming 1.45 x salary): $413,250
- One planner can manage 800,000 Gross Square Feet (GSF) of space
  This figure is based on real estate services industry standards for administrative space, but we are unsure whether it is applicable in UCSF's case due to the nature of the space (research). Thus, we suggest piloting with 3 FTE.
- Amount of Parnassus space is 2.45 million GSF (29% of all campus research and administrative space)

Reasoning for Parnassus Pilot:

- Improved data accuracy about Parnassus space dovetails with ongoing Master Planning effort
- Provides a means to test the idea without committing to full-scale campus-wide implementation
- Parnassus is a geographically compact campus, so an easier site to pilot this model.
- Provides an opportunity to test how many GSF each planner can realistically cover in a research university environment
- Department of Medicine controls ~30% of Parnassus research and administrative space, and has a Parnassus-based project manager (Alyssa Tecklenburg), who can assist with pilot rollout and act as a liaison to occupancy planners

B. Recommend revisions to campus space policy. Define vague terms, clarify responsibility for enforcement actions, consider specific policy changes proposed during June 2017 kaizen.

1. Mandate that all offer letters to faculty include the following language:
    a. *"XXX space is currently allocated for your use, and may expand or contract depending on the success of your research program and the availability of space at UCSF."*

2. Generally prohibit space loans of >600 ASF, unless:
    a. Approved by the appropriate Chancellor's Direct Report (for loans within a Control Point), or
    b. Approved by an appropriate campus-level governance body, such as the Space Management Subcommittee (for loans between Control Points).

    Sample reasons for approving >600 ASF loans would be to provide swing space during renovations, temporary or swing space for new recruitments, to facilitate collaboration that furthers the campus' mission, etc.

3. Establish a standard approval process for space loans that includes the following features:
    a. Establish a mandatory end or "review" date for all loans, at which time they must be re-assessed and re-authorized (if applicable).
    b. Require that space loans be memorialized in a standard format and documented in Archibus *(may require technical changes to Archibus)*.

4. Amend campus space policy to include new metrics and associated review and evaluation processes.

C. Revise space governance structure and clarify roles and responsibilities.

1. Clarify, document, and make publicly available (e.g., at space.ucsf.edu) the following characteristics of the Campus Space Committee and the Space Management Subcommittee:
    a. Committee charge and scope
    b. Membership structure and roles
    c. Decision-making authority and process
    d. Relationship to one another (e.g., does the Space Management Subcommittee "report" to the Campus Space Committee as implied by the current organizational chart?)

2. When assigning space, RASP recommends that the role of building-level governance committees (BGCs) (e.g., Byers Hall, Genentech Hall, Mission Hall, CVRI) be to advise decision-makers in the following areas:
    a. Cohesion of research program(s) in building / area
    b. Logistical cohesion of building / area (safety, equipment, infrastructure, etc.)
    c. Diversity of ideas in building / area
    d. Availability / utilization of space (real-world data)
    e. Potential risks such as chemical load

    Despite BGCs' consultative role, Chancellor, Space Management Subcommittee, Deans, and Chairs respectively retain ultimate authority for space assignment decisions. RASP does not recommend creating a Building Governance Committee for all buildings, though it may be necessary for future open plan buildings.

DETAILED RECOMMENDATIONS

A. Recommend metrics and associated targets to objectively measure the utilization and productivity of campus research and administrative space.

Research Space Metrics

RASP was charged with recommending metrics to objectively measure the utilization and productivity of UCSF campus research space. In approaching this topic, RASP sought to develop metrics that would help campus leadership to answer the following questions:

- Are Schools and Departments *actively utilizing* their assigned research space?
- Are Schools and Departments using their assigned research space *productively*?
- To what extent are a given School or Department's research operations contributing to the Campus' *financial sustainability (Financial &Administrative costs)*?

Defining Types of Research Space

RASP identified two distinct types of research space that exist at UCSF:

- Wet Research Space ("wet labs") – Laboratory space containing chemicals and potential "wet" hazards, where the room has to be carefully designed, constructed, and controlled to avoid spillage and contamination.
- Dry Research Space ("dry labs") – Laboratory space where computational or applied mathematical analyses are conducted using computer-generated models to understand or simulate a phenomenon in the physical realm.

Defining "Utilization" and "Productivity"

RASP developed the following definitions for "utilized" and "productive" research space (wet and dry):

- Utilized research space is occupied and regularly used by people or equipment for the purpose of conducting or supporting scientific studies.
- Productive research space generates a combination of the following:
    - Financial revenue
    - Scientific impact (definition referred to Academic Senate)
    - Educational impact (definition referred to Academic Senate)

Metric Selection Process

After defining "utilized" and "productive" research space, RASP generated ~25 possible metrics to consider. To facilitate the selection process, RASP evaluated the options against the following criteria:

A. Incentivizes the effective management and use of space
B. Accurate data exists in a system today
C. Ease of technical implementation
D. Ease of long-term administration (i.e., sustainable)
E. Perceived fairness (i.e., acceptable)
F. Data & methods available upon request (i.e., transparent)
G. Ease of understanding for PIs
H. Useful from the perspective of the Chancellor (reviewing School performance) and the Deans (reviewing Department performance)
I. Implementable within a short period of time (i.e., by early 2018)
    - *This criterion was originally emphasized because leadership believed that significant portions of Parnassus campus would be decanted beginning in 2018 to facilitate large-scale capital projects. Leadership wanted to leverage this as an opportunity to pilot space metrics,*

because it would entail major revisions to space assignments. In late 2017, the Parnassus decant was rescheduled for a later date, thereby reducing the exigency of this criterion.

Recommended Research Space Metrics

Using the evaluation criteria listed above, RASP selected a set of **five metrics** to evaluate the productivity and utilization of research space at the School and Department levels.

No single metric can adequately measure whether research space is actively utilized and productive. However, taken together the recommended metrics can provide campus leaders with an accurate understanding of a given School or Department's space utilization. In addition to the metrics included in the dashboard, leaders should consider non-financial indicators such as scientific and educational impact when evaluating the efficacy of space use at the Department and PI levels.

Table 5
Research Space Financial Health Dashboard

ID No.	Metric Name	Shorthand	Notes
[1]	**Rooms designated "PI Assignment Pending" for >2 Years**	Dormant Space	Indicates rooms that have been "dormant" (i.e., not utilized) for a significant period of time
[2]	**Indirect Cost Recovery per Assignable Square Foot (ASF)** ***(3-Year Rolling Average)***	ICR / ASF	Indicates how much a School or Department is contributing to the campus' financial sustainability – i.e. helping to cover the finance and administrative costs of assigned research space. For simplicity, metric can be expressed as a single weighted "**ICR/ASF Health Index**" score (0 to 1 scale).
[3]	**Expenditures per ASF or per Workstation**[2] ***(3-Year Rolling Average)***	EXP / ASF	Proxy for research activity ("utilization"). **Excludes** ICR. For simplicity, metric can be expressed as a single weighted "**Expenditures/ASF Health Index**" score (0 to 1 scale).
[4]	**Percentage of ASF designated "PI Assignment Pending" (PIP)**	% PIP	Indicates the proportion of a School or Department's research space not assigned to a PI (i.e., not "utilized")
[5]	***ASF per Occupant***	*ASF / Occ*	Proxy for actual utilization *Occupancy data quality currently insufficient, see recommendations re: Archibus data maintenance)*
[6]	***Scientific / Educational Productivity***	*TBD*	*To be considered by chairs or directors as a mitigating factor if other metrics are below target*

The detailed methodology for calculating research metrics was developed by RASP for use by the campus should the metrics be adopted.

[2] For simplicity, this metric will be referred to as Expenditures/ASF in this document.

Detailed Metric Descriptions

[1] Dormant Space

- Identifies specific rooms that have been classified as "PI Assignment Pending" for >2 years, which are defined as "dormant" (i.e., unutilized)
- This metric should be applied separately, before the other metrics are considered. It is a more direct tool for identifying underutilized space
- When identified, room owners (e.g., department chairs) should be notified and instructed to either relinquish the space or submit a written remediation plan within three months for assigning and utilizing the space within one year
- If the remediation plan is not successfully implemented within the provided timeframe, the room may be relinquished to the Dean or Chancellor (this will require action by Dean or Chancellor to reclaim the room)

[2] ICR / ASF

- ICR/ASF remains a key metric to evaluate a given school or department or ORU's contribution to campus financial sustainability.
- A major improvement to the accuracy of the metric is to set different targets for wet and dry lab space, as an acknowledgement of the differing rates of ICR that these lab types are expected to generate (dry labs generate higher ICR/ASF).
- Each school and department receives a weighted "ICR/ASF Health Index" score based on the composition of its research space (% wet and % dry):

Figure 1
Unit's "ICR/ASF Health Index" Score
=
(Dry % of Unit's Total Research Space) * [(3-Yr. Avg. of Unit's Actual ICR/ASF of Dry Labs) / (Target ICR/ASF of Dry Labs)]
+
(Wet % of Unit's Total Research Space) * [(3-Yr. Avg. of Unit's Actual ICR/ASF of Wet Labs) / (Target ICR/ASF of Wet Labs)]

- Due to high variability and numerous idiosyncrasies in PI-level data, this metric can only be reliably used to systematically evaluate schools and departments/Organized Research Units (ORU's), and not individual PIs.
- UCSF currently calculates ICR/ASF two ways: "Home View" and "Owner View." Because of idiosyncrasies in our financial, HR and space assignment data, neither method can adequately match the ICR dollars and space associated with ORUs. In certain cases however, campus or school leaders may find it useful to calculate ICR/ASF in a manner that includes all of the space managed by an ORU. In such situations, RASP recommends that a special "Geographic View" be prepared by the Budget and Resource Management Office, as requested by the Dean's Office. See Appendix III for details.
- Targets for wet and dry labs can be respectively set by calculating the average performance of occupied wet and dry labs over the most recent three fiscal years for which data exists (e.g., FY15, FY16, and FY17).
    - Exclude PI Pending space when setting targets
    - Sample targets for wet and dry lab space are based on the FY17 average ICR/ASF of wet-only and dry-only faculty PIs.

- Hold all wet research space to the same target, and all dry research space to same target, regardless of school or department/ORU.

[3] Expenditures / ASF

- Total expenditures is an accessible and reasonable proxy for how actively a lab is being used
- **Includes** all research-related expenditures from all fund sources
- **Excludes** ICR because ICR is not a proxy for activity, and to avoid double-counting with metric [2]
- Each school and department receives a weighted "**Expenditures / ASF Health Index**" **score**:

Figure 2
Unit's "Expenditures/ASF Health Index" Score
=
(3-Yr Avg. of Unit's Actual Expenditures / ASF) / (Target Expenditures / ASF)

Target Setting Considerations for Expenditures / ASF Metric

Challenges exist in setting a target for this metric. Two of the most attractive options – a) weighted wet/dry targets, or b) a single campus-wide target – are flawed for separate reasons.

Why Not Weighted Wet / Dry Targets?

Unlike with ICR/ASF, we cannot measure a unit's performance against different targets for wet and dry labs because of substantial departmental gifts that are counted as expenditures but are not tied directly to a given PI (and therefore cannot be allocated to either wet or dry space).

Why Not a Campus-wide Average?

There are major differences between the average expenditures per ASF of UCSF's four schools, attributable in part to the schools' different funding environments. For example, Schools and Departments involved in direct patient care often have more philanthropic support, are engaged in dry research, and research often takes place in clinical settings. Consequently, such schools would generate higher research expenditures/ASF. The table below lists the campus average and each school's average expenditures per ASF based on FY17 data:

School	Expenditures / ASF with PI Pending Space
Dentistry	$301
Medicine	$604
Nursing	$452
Pharmacy	$335
Campus Average	**$590**

Note large variance, e.g. between Medicine and Dentistry
(Based on FY17 Data)

Options for Target Setting

Given the above constraints, RASP identified two possible target-setting methods for this metric:

A. Set a different target for **each school** based on its past performance (e.g., prior year performance or a multi-year trailing average). This method is preferable to holding each school to a single campus-wide target, because some schools are far below the campus average.

B. Set different targets for **basic research departments** and **dry research/clinical departments**, similar to how the ICR/ASF metric uses different targets for wet and dry labs. This method would allow for uniform campus-wide targets. However, classifying departments as either basic or dry/clinical may be challenging.

Table 7
Options for Expenditures/ASF Targets

ID	Target-Setting Method	Advantages	Disadvantages
A	Set a different target **for each school** based on its historical performance (i.e., an internal baseline)	✓ Easy to calculate ✓ Controls for major performance differences between schools	× Unable to directly compare schools to one another, nor departments in different schools to one another × Doesn't account for different expectations due to space type (e.g., basic vs. clinical)
B	Set different targets for **basic research departments** and **clinical research departments** (same targets in all schools)	✓ Accounts for different expected performance of basic and clinical space ✓ Allows for direct comparison of departments in different schools, and of schools to one another	× Need to define dry/clinical vs. basic departments × School-based differences might persist

Regardless of the selected target-setting option:

- Index targets to the Higher Education Price Index
- **Exclude** PI Pending space when setting targets
- **Include** a unit's PI Pending space when calculating its annual Expenditures/ASF Health Index score

[4] % PI Pending

- Measures the percentage of a school or department's research space classified as "PI Assignment Pending" (PIP)
- Indicates the portion of a school or department's research space that is currently reported as not being utilized (i.e., not currently assigned to a PI)
- The target for this metric can be used to set an allowable degree of "buffer space" that a unit may retain, unutilized, without penalty, since some of this space will be assigned to newly recruited faculty, as faculty turn over or reduce their research programs.
- Units with PIP space above threshold must submit written explanation of plan to ameliorate

[5] ASF/Occupant

- Proxy for research activity (utilization)
- Indicates the occupant density of a given space
- Current data quality is insufficient
- Recommend keeping as a placeholder on space dashboard to drive improvement of data accuracy and completeness

- *Additional Caveats:*
    - UCSF administrative structure (specifically, Organized Research Units) makes it difficult to accurately reflect occupancy at a department level
    - In shared spaces, departmental affiliation of occupants is unclear
    - Despite data limitations, this metric adds value when used in conjunction with other metrics

[6] Scientific / Educational Productivity

Certain key aspects of space utilization and productivity cannot be evaluated using the metrics described in the dashboard. When evaluating research space, Campus, School, and Department leaders should also take into account factors that are not as easily quantifiable as ICR, expenditures, occupants, and PI Pending space.

Additional criteria to consider include:

- Scientific productivity of assigned space *(the Academic Senate Committee on Space is considering how to define this metric)*
- Educational impact of assigned space *(the Academic Senate Committee on Space is considering how to define this metric)*
- PI career stage
- Condition of space
- Location and configuration of space
- Type of research conducted in the space (e.g., basic, translational, clinical)
- "Scientific neighborhoods"

These criteria are important to consider when evaluating an individual PI's space assignment, and ought to be assessed by chairs or division chiefs, who are familiar enough with individual PIs' work to make informed decisions on these topics (including conferring directly with the PIs themselves).

Operationalizing Research Metrics

The metrics presented here provide campus leaders with powerful information about school and department performance. However, RASP recommends that the process for setting targets, the consequences for missing targets, and the process of implementing those consequences be carefully considered by leadership.

Initial Target-Setting Process (to Be Completed by Campus Leadership)

- Establish a target or target range for each metric
    - Potential bases for target setting include historical performance, external benchmarks, or space upkeep and maintenance costs. Leadership could also use metrics to focus on "outliers" (e.g., top and bottom 10% of performers)
    - For ICR/ASF and Expenditures/ASF, exclude PI Pending space when setting targets
- Determine how many targets a unit may miss before leadership initiates a conversation about whether and how to adjust a unit's space assignments.
- Index targets for ICR/ASF and Expenditures/ASF to the Higher Education Price Index
- The inflation coefficient above could be further augmented to encourage incremental inflation-adjusted improvement by schools and departments over the long term.

Annual Review / Enforcement Process

Below is a summary of the annual process RASP believes may be appropriate and feasible to implement. Detailed process maps are provided in Appendix I, and a pair of illustrative case studies can be found in Appendix II.

1. Generate dashboards summarizing School- and Department-level performance (annual "snapshot") and provide them to the Space Management Subcommittee
2. To improve trust and transparency:
    a. Make summary dashboard data available to the UCSF research community (e.g., at space.ucsf.edu)
    b. Make detailed data about each school's space available to the school's Dean
    c. Make detailed data about each department's space available to the department's Chair
    d. Make detailed data about each PI's space available to the PI
3. Assess dormant space [1] and initiate requests for "remediation plans" from Deans or Chairs of units with dormant space
4. Assess additional metrics [2-5]. If a school or department misses a minimum number of targets:
    a. Initiate a conversation with the Dean or Chair to understand the reason for the dormant space and to discuss whether and how to adjust space assignments as necessary (based on targets and criteria to be set by leadership)
    b. Instruct the Dean or Chair to submit a written plan detailing how they intend to bring their unit's space in line with targets
    c. If the reason for missing targets is unusable space (e.g., in need of renovation), recommend that space be returned to the Chancellor and removed from the School's inventory
    d. Dean or Chair has 3 months to deliver written plan to Space Management Subcommittee or Dean (respectively)
    e. Dean or Chair has one year to implement plan and report back to Space Management Subcommittee or Dean (respectively)
5. Re-allocate space assignments as appropriate (e.g., such that schools and departments meet a minimum number of dashboard targets). This may involve recovery of underutilized space for reassignment to departments or schools who meet targets and request more space.

In addition, RASP recommends that the management of research space by department chairs and deans of schools be included in their stewardship review.

METRICS FOR ADMINISTRATIVE SPACE

RASP was charged with recommending metrics to objectively measure the utilization of campus administrative space. In approaching this topic, RASP sought to develop metrics to help inform campus leadership about the current state of administrative space use, rather than to encourage broad behavioral changes among space occupants and managers.

The administrative space metrics recommended in this section can be used for the following purposes:

- To better understand the capacity vs. utilization of existing administrative space during capital planning (e.g., when considering new construction). Having this information available may facilitate a more accurate assessment of current space needs.
- To identify "outliers" – i.e., administrative areas with particularly high or low utilization relative to similar areas at the same building or site.
    - Higher than normal utilization may indicate a need for renovations or the assignment of additional space
    - Lower than normal utilization may indicate recoverable surplus space
- To inform space assignment decisions (e.g. to evaluate a unit or PI's need, or a building's capacity, with respect to a specific request for additional space)

Defining Administrative Space

Administrative space is defined as Administrative Office, Academic Office or Administrative Support space (e.g. rooms used for office support such as storage, kitchen/copy). This is different from dry research space which may also take place in a desktop environment.

Defining "Utilization"

Utilized administrative space is space assigned to units who occupy and regularly use the space for people or equipment who perform or support administrative functions generally in a desktop environment. Such space excludes specialized administrative spaces, such as police space or mail distribution or supply chain space.

Recommended Administrative Space Metrics

After reviewing the available space and occupancy data, RASP recommends using the following set of three metrics to evaluate administrative space utilization:

Table 8
Administrative Space Metrics

ID No.	Metric Name	Shorthand	Notes
[A]	ASF per Occupant	ASF / Occ	Measures the "people density" of a given area (proxy for utilization) *Occupancy data quality currently insufficient, see recommendations re: Archibus data maintenance*
[B]	ASF per Workstation	ASF / Wkstn	Measures an area's workspace configuration (i.e., how big are workstations?)
[C]	Occupant per Workstation	Occ / Wkstn	Measures an area's current utilization versus capacity *Occupancy data quality currently insufficient, see recommendations re: Archibus data maintenance*

Targets for Administrative Metrics

RASP does not recommend setting campus-wide targets for these metrics. Such targets would be extremely difficult to define and apply given the diverse layout and conditions of UCSF buildings (some Open Plan, some old, some new). Instead, RASP recommends using these metrics to compare the utilization of administrative areas within the same building, as the relative uniformity of such space serves as a more relevant basis for evaluation.

Operationalizing Administrative Metrics

Unlike the metrics for research space, RASP does not recommend using these metrics to systematically evaluate all administrative space on an annual basis. Instead, RASP recommends that leadership review these metrics on an as-needed basis (e.g., during capital planning, when evaluating a space request, or when seeking to understand a given building or site's capacity vs. utilization). If desired, leadership could also implement a regular review cadence (e.g. every 1-3 years).

RASP recommends that the following process be used for analyzing the administrative space metrics:

For each building:

1. Track the average respective measurements of metrics [A], [B], and [C] for the overall building. This establishes a baseline for the building against which individual occupants' space use can be compared.
2. Track the average respective measurements of metrics [A], [B], and [C] for each Department and Control Point's assigned administrative space within the building.
3. Compare each occupant Department and Control Point's measurements for metrics [A], [B], and [C] against the building average (or a predetermined target) to identify under/over-performers within that building. Use this information to inform space assignment decisions (including the potential relinquishment of underutilized space).

In the interest of transparency, RASP also recommends making summary administrative space data available to the UCSF community on a regular basis (e.g. at space.ucsf.edu).

Addressing Problems with Archibus Data Integrity

The campus conducts an annual space survey and prepares a report of all UCSF space (campus, UCSF Health) in the fall, for submittal to the University of California, Office of the President. The campus relies on the schools and control points, and their respective departments to update the space data as part of the annual space survey.

Successful implementation of a metric-based space management policy is contingent on the availability of accurate financial, occupancy, and space data. Without such data, campus leadership cannot make informed decisions. Furthermore, community members will be understandably skeptical of decisions based on unreliable data, undermining their perceived legitimacy.

Unfortunately, despite its tentative inclusion in the research financial health dashboard (metric [5]), the occupancy data currently maintained in Archibus is not accurate or complete enough to be credibly employed in evaluating research space utilization. Nor are the occupancy data reliable for use in

evaluating administrative space utilization. RASP attributes the apparent low quality of occupancy data to various factors:

- Responsibility for data upkeep is currently split between a large number of people (260 Space Coordinators and 22 Space Strategists)
- For most Coordinators, using Archibus is a very small portion of their job, and occurs on a sporadic basis with long gaps between uses
- Coordinators have biased reporting incentives (i.e., no reason to maintain accurate data about their unit if that data will result in a space penalty for the unit)
- Many lab occupants are "transient" trainees, for whom occupancy data can quickly become outdated. Maintaining accurate data therefore requires constant occupancy monitoring, which is not currently feasible given Coordinators' limited bandwidth.
- Archibus can only track occupants that exist in the HR system (OLPPS). This excludes consultants and contractors without an Employee ID, students, and fellows.

To improve the quality of occupancy data, RASP recommends testing a new approach to maintaining accurate space assignment and occupancy data in Archibus, by re-assigning responsibility for these tasks to a centrally administered "occupancy planner" unit.

RASP recommends implementing a yearlong pilot program at Parnassus Heights:

At Parnassus, replace the role currently played by department appointed space coordinators with a team of three centrally administered, site-based occupancy planners responsible for maintaining space assignment and occupancy data in Archibus.

- Planners are employed by a central administrative unit (e.g. Real Estate)
- Assign responsibility for collecting and maintaining space and occupancy data in Archibus by geography / square footage (e.g. by building or floor)
- Planners will consult with lab managers and local staff to gather detailed information
- Department managers (e.g. MSOs) will no longer be responsible for the input of space data in Archibus for Parnassus locations, but may review and validate space data input by planner
- Space coordinators no longer input space data into Archibus for Parnassus

Assumptions:

- Expected salary for an occupancy planner with 5 years' experience is $95,000
    - Total estimated **annual** compensation cost for three planners (assuming 1.45 x salary): $413,250
- One planner can manage 800,000 Gross Square Feet (GSF) of space
  This figure is based on real estate services industry standards for administrative space, but we are unsure whether it is applicable in UCSF's case due to the nature of the space (research). Thus, we suggest piloting with 3 FTE.
- Amount of Parnassus space is 2.45 million GSF (29% of all campus research and administrative space)

Reasoning for Parnassus Pilot:

- Improved data accuracy about Parnassus space dovetails with ongoing Master Planning effort
- Provides a means to test the idea without committing to full-scale campus-wide implementation
- Parnassus is a geographically compact campus, so an easier site to pilot this model.
- Provides an opportunity to test how many GSF each planner can realistically cover in a research university environment

- Department of Medicine controls ~30% of Parnassus space, and has a Parnassus-based project manager (Alyssa Tecklenburg), who can assist with pilot rollout and act as a liaison to occupancy planners

Below is a list of the data that Occupancy Planners would be responsible for maintaining:

1. Space Assignments (Division/Department, PI, PI %)
2. Loan information (loan documents, Start and End dates)
3. Room category and type)
4. Room and workstation assignments for occupants
5. Accurate workstation counts in rooms
6. Floor plans in Archibus (compare with "as-builts" for accuracy)

B. Recommend revisions to campus space policy. Define vague terms, clarify responsibility for enforcement actions, consider specific policy changes proposed during June 2017 kaizen.

Faculty Offer Letters

Offer letters to faculty typically include details about the lab and office space the faculty member will be assigned. Due to the vague wording in many offer letters, faculty often feel entitled to keep their originally assigned space indefinitely, irrespective of its utilization or productivity. In fact, all UCSF space belongs to the Chancellor and may be reassigned at his or her discretion.

To clarify faculty expectations around the permanence of initial space assignments, RASP recommends that the space policy be adjusted to require that all offer letters to faculty include the following language:

"[Assigned space] is currently allocated for your use, and may expand or contract depending on the success of your research program and the availability of space at UCSF."

Space Loans

RASP assessed the current use of space loans (i.e., when a current assignee loans space to another unit or PI) and how such arrangements impact the "liquidity" and availability of space, with the following findings:

- Loans may be formal (documented in Archibus, Control Point apprised) or informal (no institutional notification or documentation)
- Loans may be temporary (typically used to provide flexibility to researchers) or indefinite (*de facto* reassignment)
    - The majority of currently documented loans in Archibus do not include end dates
- Informal and indefinite loans facilitate an "underground market" for space, which undermines campus and school leaders' prerogative to allocate research and administrative space based on strategic institutional priorities.

Many units prefer to loan out vacant or underutilized space rather than relinquish it to their department or control point (as required by the current space policy). This phenomenon is attributable to a few factors:

- There is no perceived benefit to relinquishing underutilized space (e.g., no reward, no penalty for keeping it, no reason to expect relinquishment will result in necessary renovations)
- Units fear they will not be assigned additional space if and when they request it in the future, and so prefer to retain underutilized space in anticipation of future needs
- Units with less money (typically basic science departments) use space as a currency, offering to "spend" it to resource joint recruitments with better funded departments (typically clinical science departments)

When space that would otherwise be relinquished to a control point is instead loaned to another unit, it effectively reduces the Control Point's available "reserve" of space, thereby restricting the Control Point's ability to fulfill new space requests. A vicious cycle ensues: without reserves, Control Points cannot fulfill space requests, which in turn prompts PIs and departments to further hoard underutilized space in anticipation of future needs.

The problems above notwithstanding, loans may also be employed for the following valid purposes:

a. "Institutional loans" from the Chancellor or Deans when space cannot be officially assigned to a lower level unit (e.g., for special program clusters like SABR)
b. As "swing" space to temporarily accommodate occupants whose regular space is being renovated, or for whom a new building is under construction
c. A means for units to collaborate in shared space without giving up ultimate control of the space

In order to mitigate the problems enumerated above, RASP makes the following two recommendations:

1. Generally prohibit space loans greater than 600 ASF, unless:
    a. Approved by the appropriate Chancellor's Direct Report (for loans within a Control Point), or
    b. Approved by an appropriate campus-level governance body, such as the Space Management Subcommittee (for loans between Control Points).

    Sample reasons for approving >600 ASF loans would be to provide swing space during renovations, recruitment space, to facilitate collaboration that furthers the campus' mission, etc.

    Note that the 600 ASF was selected because it represents 50% of the size of the average UCSF wet lab as of May 2018, and is also the minimum lab size for a new investigator.

2. Establish a standard approval process for space loans that includes the following features:
    a. Establish a mandatory end or "review" date for all loans, at which time they must be re-assessed and re-authorized (if applicable).
    b. Require that space loans be memorialized in a standard format and documented in Archibus *(may require technical changes to Archibus)*

Incorporate Metrics into Campus Space Policy

RASP recommends that campus leadership amend the campus space policy to include the new metrics and associated review and evaluation processes, as well as any other policy or governance changes adopted as a consequence of this report.

C. Revise space governance structure and clarify roles and responsibilities.

In approaching this section of its charge, RASP distinguished between "space governance" (developing and enforcing space policy) and "space management" (conducting space-related business processes in accordance with policy).

Clarify Structure and Role of Key Governance Entities

While the Chancellor retains final authority over all UCSF space, responsibility for governing campus research and administrative space is delegated to certain institutional leaders and committees:

- The Campus Space Committee
- The Space Management Subcommittee
- Chancellor's Direct Reports (CDRs)

The respective purview, roles, and responsibilities of these leaders and committees are not clear to either the campus community at large, nor to many key members of these committees (based on PMO interviews with numerous CDRs in early 2017). This lack of clarity causes confusion, slow decision-making, and an absence of accountability in enforcing space policy. While summary information about each of these leaders' or committees' roles is available at space.ucsf.edu and in the existing campus space policy, the information provided is insufficiently clear and detailed.

In light of this, RASP makes the following recommendation:

Clarify, document, and make publicly available (e.g., at space.ucsf.edu) the following characteristics of the Campus Space Committee and the Space Management Subcommittee:

A. Committee charge and scope (clarify the committee's purpose and the activities and policies over which its purview extends)
B. Membership structure and roles (identify who participates on each committee and in what specific capacity)
C. Decision-making authority and process (clarify how the committee makes decisions, and how those decisions are implemented)
D. Relationship to one another (e.g., does the Space Management Subcommittee "report" to the Campus Space Committee as implied by the current organizational chart?)

Clarify Role of Building-Level Governance Committees (BGCs)

At various points in time and for various reasons, certain UCSF buildings have seen the emergence of building-level governance committees (BGCs). Examples of buildings with BGCs include Byers Hall, Genentech Hall, Mission Hall, and CVRI. BGCs have tended to arise to address the unique characteristics and needs of a given building's occupants (e.g., fostering a specific research environment, managing the challenges of shared space in Open Plan environments, etc.). The role and purview of each BGC is unique, but one commonality is that most BGCs appear to play a substantial though informal role in determining space assignments within their building.

In light of this, RASP recommends the following:

When assigning space, RASP recommends that the role of building-level governance committees (BGCs) (e.g., Byers Hall, Genentech Hall, Mission Hall, CVRI) be to *advise* decision-makers with respect to the following areas:

1. Scientific cohesion of building / area
2. Logistical cohesion of building / area (safety, equipment, infrastructure, etc.)
3. Diversity of ideas in building / area
4. Availability / utilization of space (real-world data)
5. Potential risks such as chemical load

Despite BGCs' consultative role, the Chancellor, Space Management Subcommittee, Deans, and Chairs respectively retain ultimate authority for space assignment decisions. RASP does not recommend creating a Building Governance Committee for all buildings, though it may be necessary for future open plan buildings.

NEXT STEPS

Implementing these recommendations will require significant communication and change management. To date, the recommended research space metrics have been communicated to the Academic Senate Committee on Space, via Expresso, and discussed at the Academic Senate Town Hall.

Table 9 Recommended Action Plan	
Action/Task	**Who**
Share RASP recommendations with Space Management Subcommittee	Subcommittee Co-Chairs (Dan Lowenstein, Bruce Wintroub)
Determine targets for metrics	Space Management Subcommittee
Determine number of targets/metrics that must be met	Space Management Subcommittee
Share RASP recommendations, including targets with Space Committee; Obtain feedback and adjust	Space Committee Co-Chairs and Subcommittee Co-Chairs (Dan, Bruce, Paul Jenny)
Develop change management plan for rolling out research space metrics • Determine key messages, audiences, communicators and method of communication; • Potential Messages/Issues to Address o Educate faculty that there are a panel of indices to look at, no longer reliance on only one metric o Not just a "stick" approach, there is a potential "carrot" – if we can build up a pool of space, then space requestors could potentially get space when they need it • Determine timeline for rollout of metrics	TBD
Communicate research space metrics and associated targets to deans, chairs and faculty.	Dan/Bruce to Deans; Deans to chairs and Chairs to Faculty
Adjust space policy to include new metrics and associated processes	TBD
Determine whether to adopt recommendation re: faculty offer letters Determine whether to adopt recommendations re: space loans	TBD
Determine whether to implement occupancy planner model as a pilot program at Parnassus	TBD
Decide whether to codify Building-level Governance Committees' informal advisory role in the space assignment process into the campus space policy. Relatedly, consider re-iterating that ultimate space assignment authority is retained by the Chancellor, Chancellor Direct Reports, and Department Chairs / ORU Directors (as opposed to BGCs).	TBD

Note: The Budget and Resource Management Office has agreed to be responsible for developing the metrics dashboard reports.

RASP MEMBERSHIP

In order to ensure an appropriate breadth of perspective and expertise, RASP's membership comprised both faculty and administrators, and included the following members for varying periods from September 2017 – June 2018.

Table 10 RASP Roster		
Name	**Title**	**Department, Control Point**
Kaveh Ashrafi, PhD	Professor	Physiology, SOM
Fran Aweeka, PharmD	Professor	Clinical Pharmacy, SOP
Janhavi Bonville	Associate EVCP	EVCP
Cara Fladd	Director, Space & Capital Planning	UCSF Real Estate, FAS
Timothy Greer	Director of Technology	ZSFG Dean's Office, SOM
Xiao Hu, PhD	Associate Professor	Physiological Nursing, SON
Mounira Kenaani	Director of Finance & Administration	Dermatology, SOM
Ritesh Khanna	Director of Space Analytics	UCSF Real Estate, FAS
Thomas Lang, MD	Professor & Associate Dean	Radiology, SOM, Dean's Office, SOD
Suzanne Murphy	Executive Director	EVCP Administration, EVCP
Srikantan Nagarajan, MD	Professor	Radiology, SOM
Michael Nordberg	Associate Dean	Dean's Office, SOP
Kira Poskanzer, PhD	Assistant Professor	Biochemistry and Biophysics, SOM
Jerome Sak	Director of Institutional Analysis	Budget & Resource Management, FAS
William Seaman, MD	Professor	Rheumatology, SOM
Vineeta Singh, MD	Professor	Neurology, SOM
Alyssa Tecklenburg	Space & Strategy Initiatives Project Manager	Medicine, SOM
Michael Walker	Chief of Staff	Psychiatry, SOM
Karin Wong	Director of Space Strategy	Dean's Office, SOM
Lori Yamauchi	Associate Vice Chancellor	Campus Planning, UCSF Real Estate, FAS
Facilitators		
Jill Goldsmith	Assistant Director	Program Management Office, FAS
Ezra Berger	Sr. Management Consultant	Program Management Office, FAS

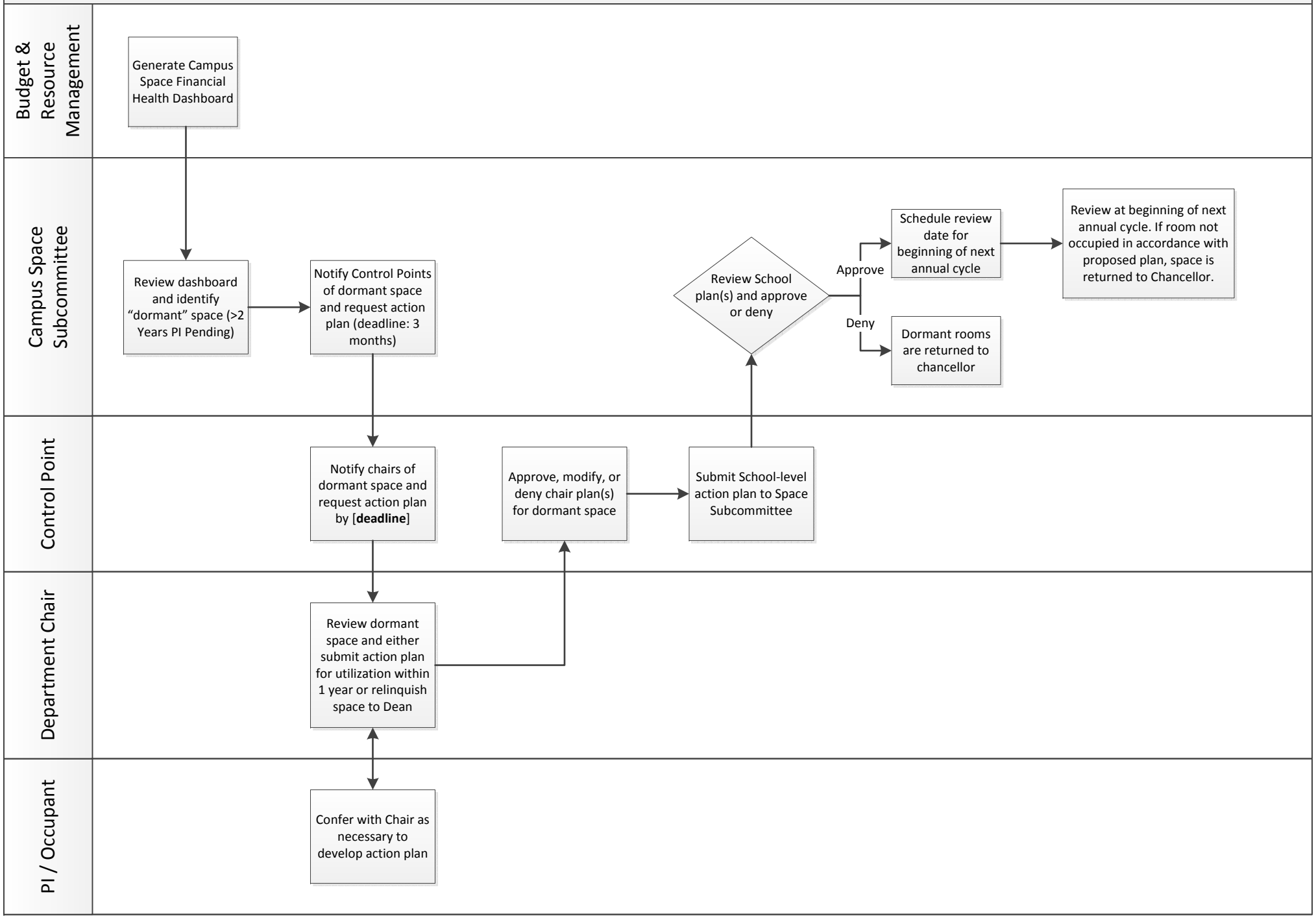
APPENDIX KEY

I. Process Maps for Implementing Metrics
II. Applying Research Metrics – Illustrative Case Studies
III. Geographic View for ORUs (Explanation)

Appendix I

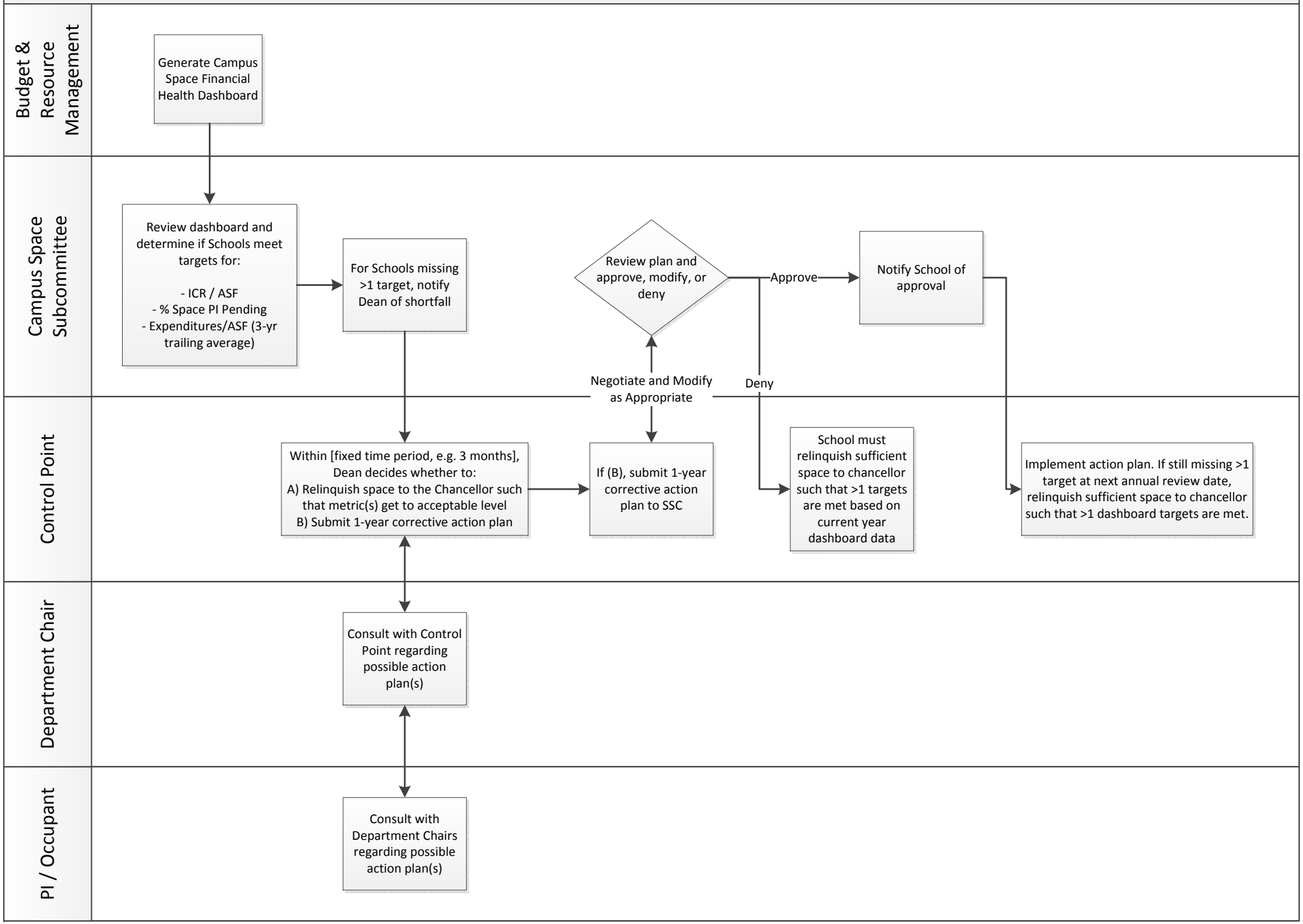
DRAFT Process Map: Annual Review of Campus Research Space Financial Health Dashboard **(PI Pending >2 Years Metric)** **1/3**

PHASE 1: "Dormant" Space (Rooms PI Pending >2 Years)



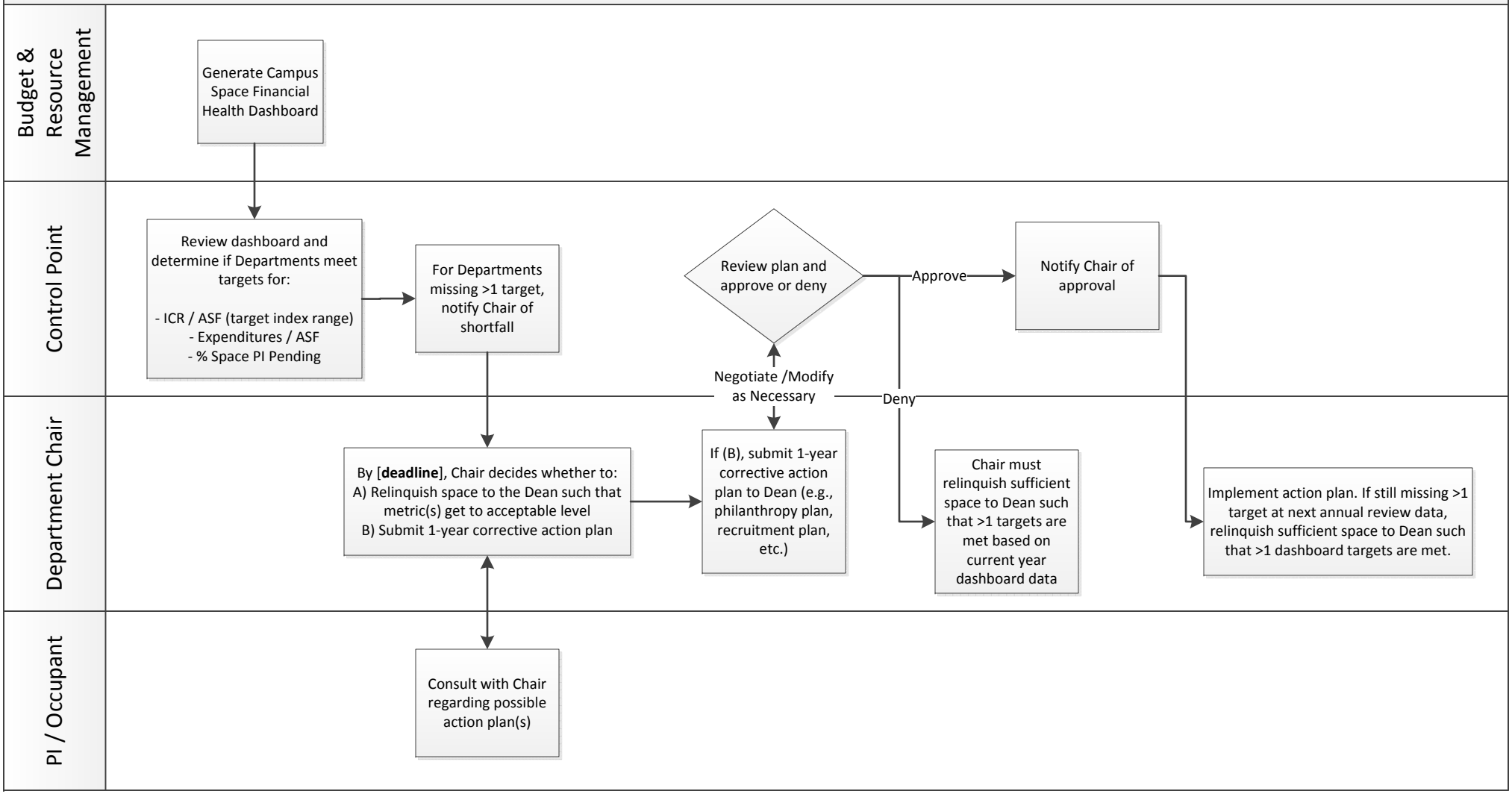
DRAFT Process Map: Annual Review of Campus Research Space Financial Health Dashboard (**SCHOOL**-Level Metrics)

PHASE 2a: Review **School** Financial Productivity and Utilization Thresholds



DRAFT Process Map: Annual Review of Campus Research Space Financial Health Dashboard **(DEPARTMENT-Level Metrics)**

PHASE 2b: Review **Department** Financial Productivity and Utilization Thresholds



Applying Research Metrics – Illustrative Case Studies

The sample scenarios below are intended to illustrate in narrative form how the research space financial health metrics could be applied.

EXAMPLE 1 – Underperforming School

For simplicity, this example follows only one school (School X). In practice, all schools would go through this process in tandem, and might each have different outcomes based on their respective metrics.

On February 15, 2019, the Space Management Subcommittee (SMS) receives the updated Campus Research Space Financial Health Dashboard from Budget and Resource Management.

Metric [1]: Dormant Space

SMS reviews the dashboard, looking first at "dormant space." It finds that Dean X of School X has two 2,000 ASF labs (Lab A and Lab B) that have been unused since 2016 (>2 years). SMS formally notifies Dean X that, for each space, she must take one of the following actions by May 15, 2019:

1. Submit a remediation plan for assigning and actively using the space by February 15, 2020.
2. Relinquish the space to the Chancellor.

Lab A: Dean X speaks to the department chair to whom Lab A is assigned. He tells her he has no plan to assign and actively use the space by February 15, 2020. Dean X then reaches out to a number of other chairs in her school, asking if any of them could assign and use the space by the deadline. All of these chairs say no, with most of them citing the poor physical condition of the space. On May 15, 2019, Dean X relinquishes Lab A to the Chancellor.

Lab B: Dean X speaks to the department chair to whom Lab B is assigned, and discovers that he plans to assign Lab B to an incoming PI scheduled to begin work on November 15, 2019. The chair provides sound evidence that the PI will likely be occupying and using the lab by February 15, 2020 (e.g., signed offer letter from PI, initial funding package, PI's tentative hiring plan). Convinced, Dean X submits a written remediation plan to SMS citing the evidence of planned use she got from the chair. SMS agrees to the remediation plan on the condition that Lab B be assigned to a PI and in active used by February 15, 2020. On that date, SMS checks to see if the room is assigned and in use. If it is, the PI retains the lab. If it is still unused, Dean X must immediately relinquish the space to the Chancellor.

Metrics [2-5]: ICR, Expenditures, % PI Pending, and Occupancy

Next, SMS reviews metrics [2-5]. They already set targets for each of these metrics during an earlier meeting in 2018. At that meeting, SMS also determined that, for metrics [2-5], each school must meet at least two targets for their research space to be considered sufficiently utilized and productive ("compliant").

SMS immediately notes that the metric [5] (ASF/Occupant) lacks sufficient data. They set it aside and note the need for improved data around this metric.

School X misses the targets for metrics [2-4], and is therefore out of compliance. School X's ICR and Expenditures are both too low to merit the ASF assigned to the school, and almost 25% of their space is

currently PI Pending (the target is 10%). SMS notifies Dean X that she must take one of the following actions by May 15, 2019:

1. Submit a remediation plan whose successful execution would bring the school into compliance by February 15, 2020. (For example, the plan could show how the school will increase its ICR and Expenditures in that time, or how it will assign sufficient space that is currently PI Pending to PI's who will actively use it.)
2. Relinquish sufficient space to the Chancellor such that School X becomes compliant.

Dean X meets with her chairs and reviews their space. She realizes that her departments have a number of pending grant proposals that, if approved, will increase the School's ICR and Expenditures such that they will be close to compliant. However, there is no clear plan for how to assign and actively use very much of School X's PI Pending space before February 15, 2020.

On May 15, 2019, Dean X submits a remediation plan to SMS with the following components:

A. She describes School X's projected increases in ICR and Expenditures based on their belief that they will receive certain pending grant proposals (backed by evidence such as copies of the proposals, etc.).
B. She enumerates a plan to assign and actively use some of School X's PI Pending space, such that only 18% of School X's space would be PI Pending (down from 25%, but not yet at the 10% target).
C. Despite the changes above, she notes that School X would still not be compliant. To seal the deal, she includes a plan to **relinquish** a number of vacant offices and two vacant medium-sized labs to the Chancellor.
    - The consequent reduction in PI Pending space brings School X's % PI Pending metric to 12% (still not on target, but much closer).
    - Relinquishing the offices and labs reduces School X's total research ASF such that its ICR/ASF and Expenditures/ASF are now on track to hit their targets (assuming bullets A and B above are successfully implemented by February 15, 2020).
    - Because it is now on track to meet at least two of the four targets for metrics [2-4], School X may therefore be considered compliant.

SMS reviews and accepts the plan. On February 15, 2020, they review the remedial actions to see if they were implemented successfully. If they were, no further action is taken. If they were not, SMS may consider recapturing some portion of School X's space.

EXAMPLE 2 – Reallocating Space between Departments

Note: This is a standalone example and has no bearing on the previous example. For simplicity, this example follows only one school (School A).

On February 15, 2019, Dean A of School A receives the updated Campus Research Space Financial Health Dashboard from Budget and Resource Management. Dean A reviews the performance of his departments. He does not identify any dormant space, but notes that Departments B is missing its ICR, Expenditure, and % PI Pending targets by significant amounts. He also sees that Department D's research space is exceptionally productive, exceeding each dashboard target; he notes their outperformance and ponders how to reward their effective use of campus resources.

On March 1, 2019, Dean A notifies Chair B of Department B that she must take one of the following actions by May 15, 2019:

1. Submit a remediation plan by May 15, 2019 that will result in Department B meeting at least two of the ICR, Expenditure, or % PI Pending targets by February 15, 2020.
2. Relinquish the space to Dean A.

After consulting with her department colleagues, Chair B submits a remediation plan on May 1, 2019. Dean A reviews the plan, but is skeptical about a number of the underlying assumptions, including lack of substantiation for a number of projections about grants that Chair B anticipates receiving and the speed at which she will hire three new PIs in highly competitive fields. Dean A also reviews his school's "space request wait list," which includes a request for 2,000 ASF of wet lab space from Chair C of Department C for one of her very promising early-career PIs. Unfortunately, Dean A cannot currently fill the request due to lack of available space.

After conferring with a number of colleagues, Dean A declines Chair B's remediation plan based on the lack of compelling evidence and the exigent need for space in other departments. He requires Chair B to relinquish 2,000 ASF of wet lab space and 2,000 ASF of other research space by August 1, 2019 (reducing Department B's ASF by this amount will bring them into compliance with all metrics).

On August 15, 2019:

- Dean A assigns the relinquished 2,000 ASF of wet lab space to Chair C, who in turn assigns it to her early career PI. Their space request is removed from Dean A's "space request wait list."
- Of the 2,000 ASF of additional research space relinquished by Chair B, Dean A assigns 1,000 ASF to Chair D in recognition of Department D's outperformance.
- Dean A retains the remaining 1,000 ASF of additional research space. It is classified as "PI Pending" and held in reserve at the School level to meet future space needs.

Problem: existing Owner and Home views do not work for ORUs

Owner View = ICR ($$$) associated with the unit / Space (ASF) associated with the unit

The Owner view is skewed by mis-alignments in space and money.

- *PIs may chose to run their grants through the ORU or their home department.*
- *PIs may occupy space assigned to the ORU or to other units.*

Home View = ICR ($$$) associated with the PI / Space (ASF) associated with the PI

Since Home view pulls PIs in by home department, Home view for an ORU misses most of the ORU's actual membership.

(In general, faculty's primary appointments are in their home departments, not the ORU.)

2 ORU Metrics Discussion 7/27/2018 UCSF

Proposed solution: create a "geographic view" inclusive of all ***space managed by the ORU.***

1. As ORU designated space is relatively static, we begin by pulling in all space *managed* by the research program.
   - For CVRI this is the entire Cardio Vascular Research Building (*including portions of the building that are assigned to other departments*) plus other spaces outside of CVRB that are documented as assigned/loaned to CVRI in Archibus (e.g. wet labs on 13HSE, 7HSE, etc…)
2. Next, we include all PIs that occupy any of the above 'research program managed spaces'.
3. Lastly, we pull in any ICR ($$$) associated with the PIs occupying the space managed by this research program.

What is CVRI's ICR/ASF?

Data from ICR Benchmarking, FY17

View	PI Count	ICR $	ASF	ICR/ASF
Home	45	$5,548,100	72,224	77
Owner	45	$8,126,373	104,198	78
Geographic	57	$12,485,872	104,198	120

Geographic view includes all space managed by CVRI and all ICR dollars generated by the PIs that occupy CVRI managed space. For example, "islands of space and dollars" in CVRB like Biochemistry's (Jeremy Reiter's) will only be captured by the Geographic view.

Because we seek to understand how well the space managed by CVRI is utilized, the Geographic view excludes the ICR of PIs without any CVRI-managed research space.

Home view misses the PIs whose "home department" is not CVRI.

Owner view misses the CVRI managed space that is assigned to other departments.

What is Diabetes' ICR/ASF?

Data from ICR Benchmarking, FY17

View	PI Count	ICR $	ASF	ICR/ASF
Home	24	$6,667,359	23,776	280
Owner	24	$7,177,869	21,422	335
Geographic	15	$5,738,754	24,512	234

Geographic view includes all space managed by Diabetes and all ICR dollars generated by the PIs that occupy Diabetes managed space. For example, "islands of space and dollars" in Diabetes like DOM's (Mark Andersen, Jeff Bluestone) will only be captured by the Geographic view.

Because we seek to understand how well the space managed by Diabetes is utilized, the Geographic view excludes the ICR of PIs without any assigned research space. (ex: Peter Sayre's $1.3M in ICR is appropriately excluded from the Geographic view but included in the Home and Owner because his home department is Diabetes and his grants are managed by Diabetes.)

Home view misses the PIs whose "home department" is not Diabetes.

Owner view misses the Diabetes managed space that is assigned to other departments.

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