



**Evaluating Facility Occupancy Costs
OCS Initiative at Partners HealthCare, Inc.**

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Why an Occupancy Cost System for Partners HealthCare?

The merger of academic hospitals that created Partners HealthCare System brought with it potential synergies between the individual hospitals. One clear area for synergy was the potential for consolidation of services between the organizations and associated space densification. Significant cost savings are possible through an optimization of service distribution throughout the healthcare system.

During 1996 Partners senior management recognized the value in creating the position of Vice President of Real Estate. Subsequently, the existing, hospital-based, Planning and Construction and Facilities Engineering groups were added, merged to form Partners Real Estate and Facilities Department (RE&F).

As cost reduction became more and more critical to the organization, RE&F developed a blueprint for a cutting-edge facilities portfolio management system. Four applications were called out: lease management, occupancy cost, capital project tracking and CAD/space management. While project tracking and CAD/space management applications were already in use, modifications were necessary to include all of Partners entities.

Intended Strategic Applications

The Occupancy Cost initiative was just one part of a three-part approach intended to enable Partners to effectively analyze their portfolio of facilities, identify optimal use of existing facilities, and plan consolidation. The three part initiative included the following components:

1. A functional space use analysis (performed by Space Diagnostics Inc. of Madison, WI)
2. A facility condition assessment (performed by VFA, LLC of Boston, MA)
3. An occupancy cost analysis (performed jointly by VFA and Kirkwood Associates of Ann Arbor, MI)

Through the integrated analyses of the results of these three components, Partners would be able to understand current and projected space needs by use classification; would understand the deferred maintenance, code compliance issues and facility renewal requirements of each facility; and would know the total occupancy cost for each facility. With this information as a basis, Partners would be able to optimize the use of their merged facilities and optimize the effectiveness of the ongoing investments in their facilities. Though this vision is currently not fully realized, Partners has significantly benefited from the overall initiative.

Intended Operational Applications

The Occupancy Cost System Initiative involved both analysis and technology. The technology provided a vehicle for the efficient collection and coordination of large quantities of disparate data. The technology solution, a database-driven software program, was designed to enable ongoing collection and management of the occupancy cost data.

A primary goal of the occupancy cost system was the normalizing of disparate cost data from the various hospitals to create an "apples to apples" comparative capability. Through the normalizing process, significant discrepancies were identified and corrected.

In addition, the OCS was envisioned to enable comparison to best-practice benchmarks of sister institutions and, moreover, through intra-organizational comparative analysis. While the latter has proven useful to Partners, as is discussed below, comparative benchmarks and norms are insufficient for basis of performance measure, but did prove insightful for general checks on operations.

How is the PHS Occupancy Cost System Structured?

Given these goals and objectives for the Partners Occupancy Cost System, our next task was to develop a conceptual design for the system. We began with the following design assumptions:

- 1) OCS was envisioned as a tool to support strategic decision-making on the deployment of Partners' real estate assets. OCS would not maintain detailed cost data which was redundant to that available in departmental systems. Partners HealthCare System entities already had a variety of departmental information systems in place to support Facility Management operations, including Maintenance Management Systems (Grand PM); Energy Accounting Systems (FASER); housekeeping staffing systems.
- 2) The sole source of all OCS cost data was to be the institution's accounting records (G/L). When necessary and appropriate, such recorded costs might be disaggregated through the use of auxiliary data as the basis for disaggregation. For example, if a single G/L account is used to record the maintenance and repair cost for several buildings, for OCS this cost might be allocated among the several buildings using historical data from the institution's CMMS on actual work accomplished by building as the basis. In the absence of such activity measures, square footage could be used as the basis for disaggregation / cost allocation.
- 3) The Institute of Management Accounting's Statement on Management Accounting Number 4-O, entitled The Accounting Classification of Real Estate Occupancy Costs, dated January 15, 1991, was used as the sole guideline for defining valid Occupancy Costs.
- 4) To the extent possible, OCS data elements were mapped to data elements in the Commonwealth of Massachusetts Rate Setting Commission's "RSC 403" annual cost report filing. This would allow Partners HealthCare System to benchmark OCS data with that of other Massachusetts hospitals using available public documents.
- 5) In order to achieve comparability between the cost of facility support services provided by in-house departments and outsourced facility support services, for in-house services OCS included the following indirect costs in addition to the typical direct departmental costs:
 - a) fringe benefits;
 - b) an allocation of G&A expense to cover the cost of services such as Purchasing, Payroll, Personnel, Accounting, etc. provided by other units to an in-house department;
 - c) depreciation of capital equipment assigned to the department;
 - d) salary of department head, if charged to a higher-level cost center.
- 6) In order to achieve comparability with industry benchmarking data (IFMA and BOMA), both per-Rentable-Square-Foot and per-Gross-Square-Foot unit costs were to be available in OCS. In practice, RSF is not as yet available from Partners' Space Inventory System and so costs per RSF have never been calculated.
- 7) Since approximately 15% of Partners' portfolio is leased, the OCS had to handle owned and leased properties. In practice, leaseholds have not yet been incorporated into the OCS.

Key Concepts Underlying the IMA Real Estate Occupancy Cost Standard

The IMA Statement defines Occupancy Cost as follows:

"Occupancy Cost is the total cost incurred by a company to provide space for the operation of its business units. Occupancy Costs can be divided into the costs of operation and costs of providing and maintaining the fixed asset. Costs of Operation include those items associated with the day-to-day operation of a facility: utilities, management, cleaning, repairs, etc. Costs of Providing the Fixed Asset include those items associated with the construction, ownership, and the long-term integrity of the

physical structure. Such items include: capital costs, capital improvements, property taxes, insurance, and depreciation charges.”

Costs of Doing Business are Excluded

A key concept of the IMA Statement is that Occupancy Costs are distinct from business unit operational costs. Care was taken to eliminate costs related to the unique physical requirements of a particular business unit when computing Occupancy Cost. For example, the repair and upkeep of water purification equipment within a Hemodialysis Unit should be considered an operating cost of the Hemodialysis Department, not an Occupancy Cost, even though the institution's Maintenance Department may be responsible for maintaining such equipment. While this is an important principle, it was exceedingly difficult to achieve such complete isolation of Occupancy Cost in practice.

The following four tests are offered in the IMA document to aid in determining whether a specific cost should be classified as an occupancy cost or as an operating cost attributable to a business unit. A positive answer to each question indicates that the cost is an occupancy cost:

1. Does the cost directly reflect a cost of providing, maintaining, or using the real estate?
2. Does the cost reflect a standard or typical amount or type of cost that would be charged, passed through, or used as a basis for determining the lease rate for space leased by Partners HealthCare Corporation from an independent third party?
3. Is the type of cost one that would be incurred by a typical user, or does it reflect special requirements of the[Partners HealthCare System business unit occupying the space?]
4. Is the type of cost one that [Partners HealthCare System] would (or could) charge if it were to lease the space to a typical unrelated firm?

Structure of the Occupancy Cost Database

Each individual occupancy cost item has three attributes which give shape to the Partners Occupancy Cost System and allow analysis. An individual expense falls into one of twelve Functional Categories, carries one of five Natural Classifications, and is assignable to a discrete, identifiable physical area assigned to one of seven Property Hierarchy levels.

Functional Categories

The Partners' OCS records all Costs of Operations into one of seven functional categories:

1. Facilities Administration
2. Plant Maintenance
3. Plant Operations
4. Groundskeeping
5. Parking
6. Housekeeping
7. Security

Similarly, the Partners OCS records all Costs of Providing the Fixed Asset into one of five functional categories:

1. Insurance
2. Real Estate Taxes (or payments in lieu thereof)
3. Depreciation
4. Lease Cost
5. Capital Cost

Spaulding Rehabilitation Hospital

The following items represent the necessary adjustments, as observed by VFA during the initial interview, that need to be made to arrive at true Occupancy Costs. This should be used in conjunction with the Detailed Description of Occupancy Costs to determine all of the adjustments that must be made.

SRH Departments

OCS Functional Categories

Engineering and Maintenance
 Exclude cost and labor associated with "Patient Assistant Devices"
 Do not include Capital Projects costs
 Exclude cost associated with Environmental Health and Safety

Security and Parking

Construction Development

Environmental Services

Environmental Health and Safety

Plant Maintenance
 Breakout off-site maintenance cost from main building and assign to off-site campus
 Exclude cost to maintain telephone system

Plant Operations
 Include removal of general and medical waste
 Exclude removal of hazardous waste

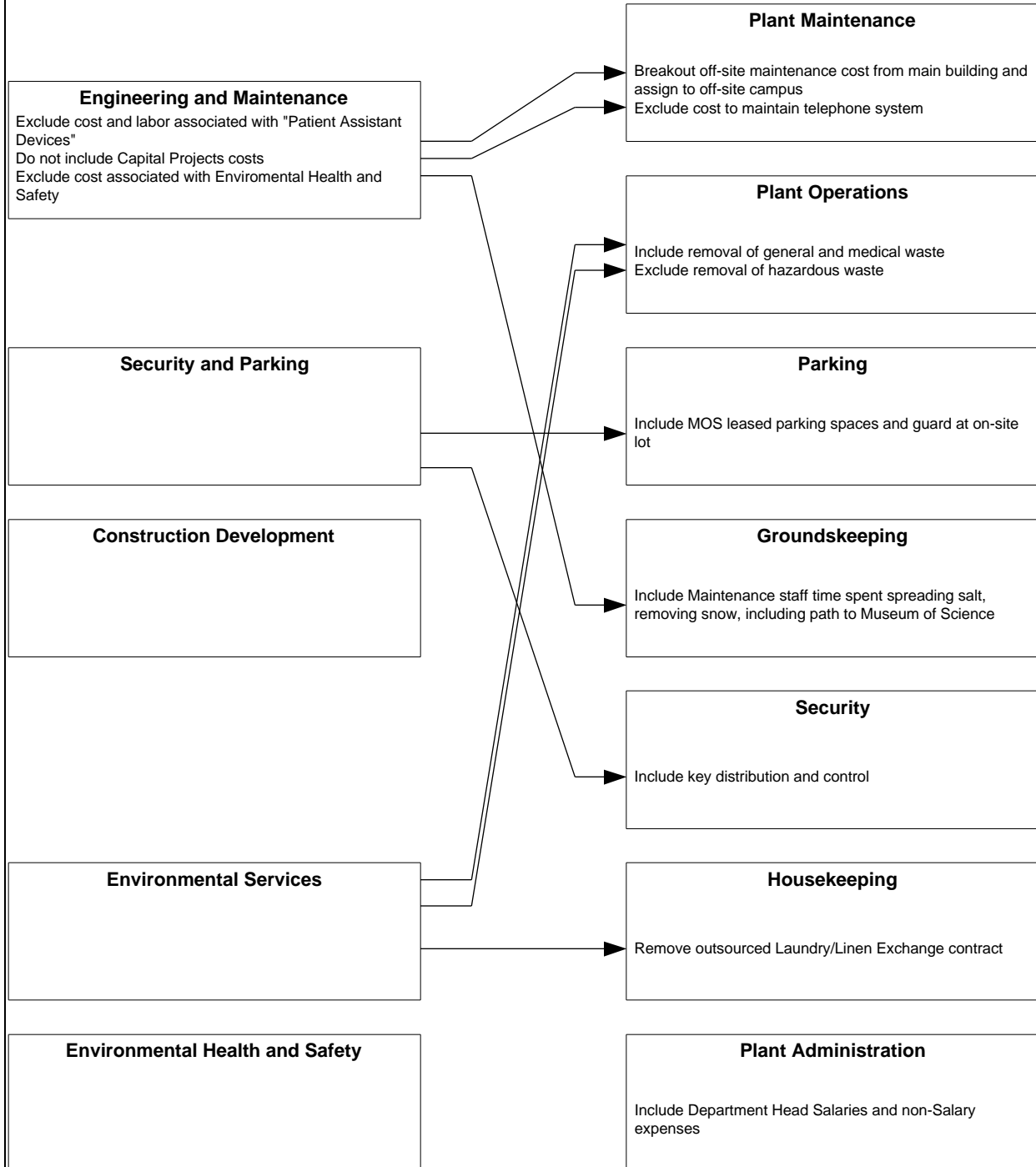
Parking
 Include MOS leased parking spaces and guard at on-site lot

Groundskeeping
 Include Maintenance staff time spent spreading salt, removing snow, including path to Museum of Science

Security
 Include key distribution and control

Housekeeping
 Remove outsourced Laundry/Linen Exchange contract

Plant Administration
 Include Department Head Salaries and non-Salary expenses



A detailed definition of each of the twelve categories was developed so that individual costs could be consistently assigned to the proper category.

Each Partners entity had a slightly different organizational plan for delivery of its facilities-related services, and so it was necessary to develop "mappings" that related the services of each facility services department in each Partners entity to the most appropriate functional category. An example of such a mapping, for the Spaulding Rehabilitation Hospital, is shown in the figure above. Again, this served to assure consistent categorization of occupancy costs.

Natural Classifications

The Partners OCS requires the assignment of each cost item to one of the following five major Natural Classifications (some with sub-classifications):

- Salaries & Wages
- Purchased Services
 - Outsourced
 - Other
- Supplies & Expense
 - Materials
 - Utilities
 - Other
- Depreciation
- Cost of Capital

Property Hierarchy & Cost Allocations

Each item of Occupancy Cost can be related to a particular physical area. Some costs, such as labor and materials associated with a work order for the repair of a roof, clearly correspond to a particular building, while others such as security patrol services, can be related only to the general confines of a particular property parcel or campus.

In order to match costs consistently and completely with the Partners property portfolio, it was necessary to adopt a Property Hierarchy with rules that allow the recording of costs at any level of the hierarchy. Seven levels of hierarchy were defined:

1. Entity (legal entity, some of which are comprised of multiple hospitals)
2. Business Unit (within each Entity, the one or more organizational units with identifiable management, financial and budgetary responsibility, etc.)
3. Campus (within each Business Unit, the one or more discrete, definable property parcels within which physical plant assets are located)
4. Building (within each Campus, the one or more constructed facilities of common with discrete and definable structure, shell, and building systems. Separately constructed additions (wings, etc.) may be considered buildings even if they are contiguous to other buildings.)
5. Leasehold — not applicable to all buildings — (these are suites leased to Partners HealthCare System in buildings not owned by Partners, or leased by Partners HealthCare to others in Partners-owned properties)
6. Floor (within each Leasehold or Building)
7. Room / Space (within each Floor)

Partners OCS uses facility square footage as the basis to allocate costs recorded at a higher level of the Property Hierarchy to lower levels. For example, the costs of providing campus-wide security patrol services are allocated to each building on the campus on a pro-rata basis by square footage. In this way the full costs of providing facility services can be assigned ultimately (and theoretically) to each room or space within a real estate portfolio. As a practical matter, such a technique has been used by Partners to isolate costs only down to the Building or Leasehold hierarchy level. However, in theory such an allocation concept would permit disaggregation of occupancy costs down to the room level, and then recombination in other ways. For example, room-level Occupancy Costs could be summed for all rooms assigned by a particular hospital department, no matter in which building or campus they are located, to assemble a "Departmental Occupancy Cost." Or room-level Occupancy Costs for the "Office" room type might be examined across an organization.

Data Sources

Partners Space Database: RE&F committed significant resources toward development of a CAD driven, space management system several years ago. This system easily addressed the requirement for building area information within the occupancy cost model.

G/L Chart of Accounts: Most accounting systems are designed for simplicity and ease of use by the accounting staff. This approach evolved from the need to process thousands of transactions on a daily basis. Energy cost is a good example: oil, gas, chilled water, steam and electricity are paid from single accounts by the business unit.

CMMS: The computerized maintenance management system is of value in its capacity to assign cost on a building level.

The Data Collection Process

All of the source costs of occupancy are contained in various general ledger accounts of Partners affiliated hospitals. However, as with many hospital organizations, the cost is accounted for in a generic fashion; major elements such as energy and depreciation are aggregated into single accounts. Perhaps our single biggest challenge has been to disaggregate these component costs into true occupancy cost classifications (Functional Categories).

The challenge has been reinforced by Partners complex corporate structure. Each entity maintains a distinct general ledger. While all Partners' books contain similar sets of accounts, significant differences exist on a transactional level. For instance, Brigham and Women's Hospital assigns certain carpentry shop labor cost to its Engineering Department, which normally expenses this activity against the department's budget. Mass. General Hospital, on the other hand, assigns the identical cost to Buildings and Grounds; B&G enters most jobs on its automated work order system and then classifies the work order cost to individual operating sub-accounts, by building.

Year 1 (FY96)

In order to augment the RE&F staff, VFA was directed to proceed with both development and installation of the model and actual data gathering as well. Data gathering involved contacting five hospitals to obtain cost center data from selected operating accounts. Typically, two to five individuals were involved at each entity. Initial interviews with key contacts were conducted by VFA project personnel. Raw cost center data was then keyed into the model by VFA, with assistance provided by a point person from RE&F.

Significant anomalies in the data were accentuated at that point in the process. The differences served to underscore the need for additional meetings with key contacts at the entities. Feedback from department heads, having comprehensive knowledge of operational specifics and departmental budgets was found to be an essential element in conveying information to the data gatherer. Correspondingly, the data gatherer must demonstrate sufficient skill involved in asking the right questions.

Our initial experience demonstrated that asking the consultant to essentially provide a "turnkey" product was not the best use of resources. As with any new installation, there were numerous issues to be resolved within the model itself. Data entry and testing occurred simultaneously. In order to provide

consistent data across all hospitals numerous cost adjustments were required within the model. Additionally, judgements on administrative allocations were required, as were determinations on depreciation and cost of capital. This undertaking severely taxed the Consultant's resources. As a consequence, RE&F overran the budget and completion lagged well past the scheduled date.

Year 2 (FY97)

Critical lessons were learned from the experiences of Year 1. Ideally the process of data gathering should be performed by a single individual. Data integrity and consistency are of paramount importance. As raw costs are evaluated for classification into the appropriate functional category and natural classification multiple interviews and conversations may be required. An experienced single individual can most effectively apply a consistent "translation" from raw data to true occupancy cost. The importance of consistent interpretation of the underlying operations cannot be stressed enough.

In order to increase the likelihood of consistent interpretation of the data from line managers we elected to utilize an experienced accountant with CPA and good interpersonal skills for this temporary assignment. We felt that our size and complexity would mandate a full-time, three-month commitment, which we insisted upon.

The data collection results in Year 2 were significantly better. Our decision to dedicate a trained accountant to the project, under the sole direction of a person familiar with process and politics was the correct approach. In fact we were able to restate some problem areas from Year 1, particularly with respect to depreciation, cost of capital and parking cost. It should also be mentioned that, by extending the project for a second year the first year data was no longer viewed in isolation. Year 1 data was evaluated against Year 2 and trends emerged.

Trends and Degree of Acceptance

This model has been conditionally accepted by Partners senior management as a legitimate tool to define the cost of providing fully functional (generic) facilities. Acceptance has been uneven in several respects. Some have made the argument that operating managers have already developed specific, tailored metrics for performance evaluation purposes. Others have endorsed the process, particularly with regard to trending analysis.

There is consensus within Partners that the general category of Cost of Operations, which includes the functional categories: Plant Operations, Housekeeping, Plant Maintenance and the like is useful due to the "controllable" nature of the underlying expenses. However, the expense associated with the general category of Cost of Providing Fixed Assets is not thought of as controllable. These include the functional categories: Insurance, Taxes, Depreciation, Lease Cost, and Cost of Capital. Over the course of two years Partners' controllable Cost of Operations has amounted to only 51% of the total occupancy cost amount.

Other clear trends and patterns are apparent from our data as well. Of the so-called controllable items the expense classifications: salaries, utilities, and all other expenses each comprise approximately one-third of the total. One final trend is mentioned here; the total cost for our urban facilities is twice that of the corresponding suburban facilities. As might be expected, parking costs are a significant driver of the difference.

Successes and Refinements

The commitment to this occupancy cost process emanates from the concept of cost reduction as a strategic objective. Is the time and effort justifiable? The short answer at this point is the results are inconclusive. If the success of the process is to be defined by an enhanced understanding of Partners cost structure, then the process is a success. To date, however, no policy change has occurred as a direct result of the process.

Real Estate and Facilities has made specific recommendations for FY98 and beyond to expand the occupancy cost data set. The first is to collect FY98 data. Senior management has endorsed another year of data collection (a freeze in spending may put this effort off). Second, extend data collection to encompass leased properties. Third, refine the structure of the model to include additional expense classifications.

Recommendations have also been advanced to develop more comprehensive facility performance indicators. A direct connection should logically be established to workload and service levels. Some thought is also being given to fine-tuning building area to adjust for intensity of use, owing to the fact that activity across buildings may skew occupancy cost.

Other options are certainly possible and are still under active consideration. The fact that occupancy cost data gathering is an expensive undertaking remains an obstacle to universal acceptance. Political obstacles exist as well – higher cost institutions must defend their cost structure. Opponents argue also that the process is flawed. What is not in dispute, however, is that the data is a compelling, powerful tool. What each organization needs to determine is that there is sufficient political will to accept its conclusions.