

Real Estate and Property Management



Facility managers are integral in overseeing real estate as both an asset and a space supporting occupants. To excel in this role, they must comprehend real estate principles, allowing them to contribute to usage decisions, evaluate alternative proposals, interpret documents, and ensure accuracy. Their expertise extends to judging information quality and suggesting financial analyses, ensuring a holistic understanding and effective management of real estate assets.



Real Estate and Property Management

✧ Introduction

Role of facility managers as related to *Real Estate and Property Management* competency

According to the IFMA global job task analysis:

Facility managers are expected to manage real estate both as an asset and as structures and grounds designed to support the people who use them. Therefore, facility managers need to understand real estate principles and practices so they can:

- Contribute to decisions as they relate to the use of real estate.
- Compare alternative real estate proposals and determine their effect on support systems, building systems, vendor relations and personnel.
- Interpret real estate documents, agreements and investment recommendations.
- Judge the quality of available information and suggest financial analyses when appropriate.
- Confirm the accuracy of documents and agreements.

Facility managers must also contribute information and expertise whenever:

- The organization decides to renovate, relocate, open or close a facility (or dispose or divest a surplus facility).
- There is a need to initiate a new or replace an existing lease.
- There is an opportunity to exercise a lease-back option that benefits the entire organization.
- There is an opportunity to lease or sublease unneeded space to another tenant.
- The company considers securing more space or disposing of property.

Additionally, when an organization decides to reduce or increase staff due to either a reduction in force or an acquisition, the facility manager needs to be able to address whether current space and acquired space can be consolidated efficiently while maintaining cultural and legal standards, including occupancy limits, egress and so forth.

Facilities represent a large part of any organization's assets—whether small or large, incorporated or unincorporated, public or private, profit or not-for-profit, domestic or multinational. There are many significant costs, risks and opportunities associated with owning and leasing facilities.

The traditional role for facility management professionals ties FM contributions to the day-to-day delivery of services. Few would challenge the tireless and



immeasurable contributions FM makes in maintaining the physical work environment. While difficult to quantify, these FM services invariably influence employee motivation, productivity, morale and other human factors.

Cost savings, cost avoidance, risk mitigation and service excellence associated with services absolutely do matter to the entire organization.

A facility manager's roles and responsibilities in real estate and property management are different. Facility management professionals step outside the traditional service role. Assuming real estate and property management responsibilities provides new opportunities for a facility manager to maximize organizational value, minimize costs and add directly to the bottom line.

Many terms will be introduced and defined throughout subsequent competency content. Two key terms to understand from the onset are those embedded in the competency area title: real estate and property management.

Real estate is property—structures and their surrounding grounds and undeveloped land—whether it is owned, co-owned, leased, subleased, or contract managed. Facilities are traditionally thought of as offices, shops, manufacturing and distribution centers and the like; however, some facilities are more valued as property to be sold or traded than places to produce goods and services. Therefore, real estate is also an asset.

Property management is generally described as operating property primarily for business use. Property management typically infers the effective operation and management of owned, leased or subleased real property including land, buildings, assets, equipment and legal commitments for an owner, developer or landlord.

Within any organization, real estate and property management are driven by a wide array of factors and organizational specifics. If, for example, an organization owns properties considered valuable, real estate may be a key component contributing to the organization's wealth. Conversely, if unforeseen economic changes or other factors jeopardize profitable organizational operations, those same owned properties may become liabilities. A leased property presents yet another scenario as an operating expense on an organization's financial statements.

Similarly, a facility manager's involvement and responsibilities in real estate and property management vary. In many organizations, real estate and property management may be separate functions. A facility manager often works with



real estate and property management counterparts who come from backgrounds other than facility management.

Yet the reality is, a facility manager is in the real estate business, whether by formal assignment and designated job responsibilities or through working relationships with others. When a facility manager works with the finance and legal departments (or whoever negotiates leases for the organization), the facility manager needs to provide relevant data for informed decision making. Then, the facility manager needs to review and understand the lease abstract and terms and conditions and how to manage to that lease.

So too with property management. A facility manager does not manage property solely for profit. But he or she does work to deliver high-quality, cost-effective service for stakeholders that is aligned to organizational strategies and objectives.

Did You Know?

In many multinational corporations, corporate real estate and facility management belong to the same organization, named CRES (corporate real estate services) or WPS (workplace services). Each team plays its own role, but real estate and facility management also work together, especially when working on a new space establishment.

Overview of Real Estate and Property Management competency

Real Estate and Property Management content examines the interface between real estate decisions, facility management functions and the ability of the entire organization to achieve its goals. Demographic data from the IFMA global job task analysis indicates that most facility managers assume real estate responsibilities over time and as a byproduct of professional experience. Competency content assumes that a facility manager is directly involved in managing real estate.

Whether you have real estate experience or the area represents professional development and growth opportunity, the information that follows will:

- Enhance your appreciation and understanding of real estate and property management.
- Provide a tool kit of relevant knowledge and skills.
- Help you to develop and/or sustain an active voice in real estate management in your organization.



Even if real estate is a separate function in your organization, you will still benefit from the competency information. Competence derived from the collective insights presented in the *Real Estate and Property Management* competency will enable you to:

- Manage real estate assets.
- Develop and implement a real estate master plan.
- Manage leases.

The fundamental knowledge and skills associated with real estate and property management are the focus of this competency. A snapshot of competency content is shown in Exhibit 5-58.

Exhibit 5-58: Overview of Real Estate and Property Management Competency

Chapter	Content
1. Real Estate and Property Management Fundamentals	• Internal factors that affect real estate decisions: organizational image, business life cycle, life-cycle costing, investment analysis and intended use • External factors that affect real estate decisions: economic cycle, age of property development, cyclical market conditions, highest and best use, government regulations, standards and financing
2. Develop and Implement a Real Estate Master Plan	• Distinctions and alignment across a strategic facility plan, master plan and tactical plan • Master plan sections • Stakeholders in the master planning process • Activities typically found in the master planning process
3. Manage Real Estate Assets	• The importance of space management • Due diligence • Space forecasting • Space programming • Space planning and space planning tools • Accounting for space • Standards and benchmarks for space measurement
4. Acquisition and Divestiture of Real Estate	• Real estate due diligence and site selection • The purchase versus lease decision • Service charge allocations • Leasing information: types of leases, basic components, lease accounting, exit strategies and property divestiture • Activities in portfolio management

As you read through the content, consider how the information applies to your situation. Real estate novice or seasoned professional, you should gain insights that will help you get better results in short- and long-term FM activities.



Chapter 1: Real Estate and Property Management Fundamentals

After completing this chapter, students will be able to:

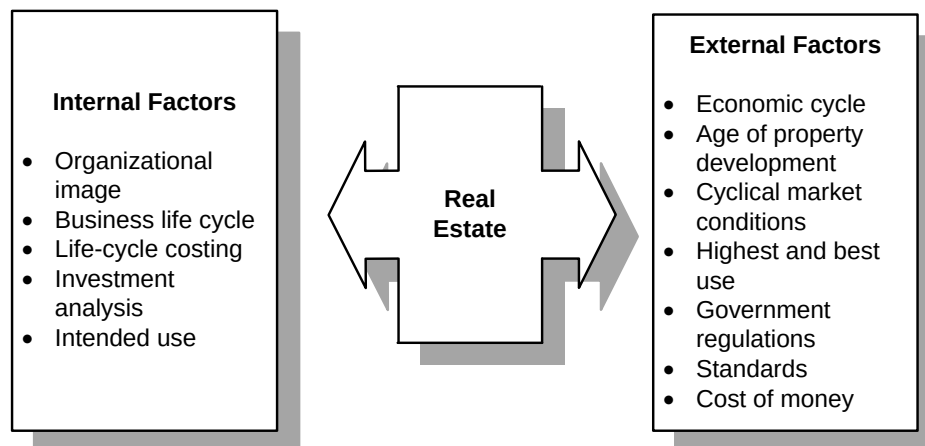
- Recognize fundamental business and legal concepts prevalent in real estate and property management.
 - Apply fundamental finance principles to real estate and property management decision making.
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For most organizations (especially those that own their facilities), the investment tied to real estate is second only to staff payroll. Ultimately, an organization—whether it owns or leases facilities—must provide the right environment for conducting their core business operations on a cost-effective and best value basis.

Broadly speaking, real estate decisions are shaped by a variety of internal and external factors. Regardless of whether real estate responsibilities reside within facility management, with another group within the organization or are outsourced to a specialist, the facility manager needs to be aware of these fundamental factors that shape real estate decisions.

Exhibit 5-59 visualizes these collective internal and external factors. Chapter content that follows examines each of the internal and external factors in more detail.

Exhibit 5-59: Internal and External Factors That Affect Real Estate Decisions



✦ Topic 1: Internal Factors That Affect Real Estate Decisions

Other than corporate real estate firms and similar disciplines, most organizations would say they are not in the real estate business. Taken at face value, this may be true. Yet the reality is, virtually every organization is invested in real estate.

Real estate plays an important role in helping an organization meet strategic business goals and objectives. Here we examine some of the most prominent internal factors affecting organizational real estate decisions: organizational image, business cycle, life-cycle costing, investment analysis and intended use.

Organizational image

How would you describe your organization's image? Innovative? Socially responsible? Good stewards of the environment? For some organizations, their image may embody all those attributes plus more. Other organizations may have very different image attributes based on organizational mission, vision and core values.

Any organization typically invests a great deal of time and resources in an effort to influence the perceptions and opinions that stakeholders and the general public have about its products and services as well as the organization itself. Sometimes referred to as branding, the process of cultivating positive public perceptions and relations affects an organization's real estate decisions. Real estate is often an extension of organizational image.

Example:

The entire commercial leasing process for a nonprofit solar power institute integrates "green" elements (e.g., resource-efficient building design, equipment, appliances, materials and operations) into lease negotiations.

Facilities generally reflect the organizational image. Outward tangible appearances communicate a lot about the organization and its culture.

Business life cycle

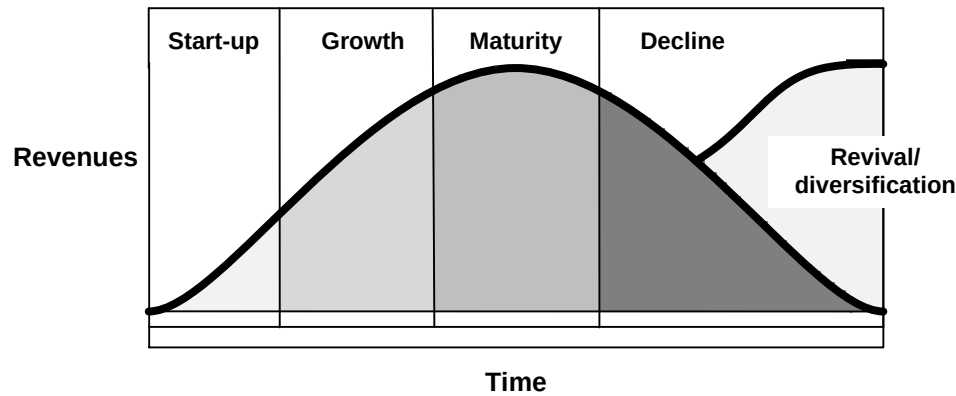
Product life cycle is a fundamental marketing concept that defines specific characteristics of products and markets at various points in their evolution. Similar but less common is the discussion of an organization's evolution and characteristics at different stages, referred to as the business life cycle.

The business life cycle describes the specific stages that result from the organization's success (or possibly lack of it) in the market. The stages organizations go through are described along a continuum. The naming and descriptions of the phases vary, but a typical representation includes start-up, growth, maturity and decline.



An additional stage, called revival (or diversification), can occur between the maturity and decline stages. Exhibit 5-60 illustrates the organizational life-cycle concept. Examples of how each stage affects real estate decisions follow the exhibit.

Exhibit 5-60: Business Life-Cycle Stages



- **Start-up.** This phase is characterized by flexibility and lean management of resources and assets as an organization works to create a profitable and sustainable vision.

Example:

Real estate is leased (rarely owned); characterized by short-term leases and options for expansion. Real estate tends to be less centralized and not tied to a master plan; or the master plan is not well defined because business growth is unknown or unclear. Capital is first used for development of the organization's products or services.

- **Growth.** This phase is manifested by increasing profit and competitiveness. The emphasis is on growth opportunities, business agility and diversification.

Example:

Real estate begins to catch up. As the organization grows, more attention is paid to real estate and how it can support the products/services/employees/image/marketplace perception. Real estate must be planned for growth; if not, the organization may need to reconfigure space for new use or expand accordingly.

- **Maturity.** This phase is characterized by high levels of competitive activity. Goals are often efficiencies to maintain profits in the wake of stagnant or declining growth (e.g., deteriorating profits and a loss of market share).

Example:

Real estate is considered a more critical item on the organization's financial statement. With periods of declining growth, real property may be disposed of in order to provide liquid assets to support a decline in profits among other operations.

- **Decline.** Declining profitability typically manifests itself in reduced facility support and deferred maintenance. The organization may seek to reduce its footprint to conserve capital.

Example:

Real estate must be assessed as to how it is serving the goals and objectives of the organization and if consolidation/compression is needed or if the decline is seen as temporary.

- **Revival/diversification.** At this point, an organization has to rebuild learning and innovative capabilities and shape a new profitable direction. There may be movement toward drastic changes to alter the decline trajectory; often characterized by risk taking, innovation, acquisition and diversification.

Example:

Real estate is more closely evaluated and potentially revitalized in order to support more diversification within the organization's operations. During this time, FM may have unique opportunities (e.g., a space reconversion or redo) to demonstrate the value of the property. An indoor tennis facility might be converted to a day-care center, an older military installation redeveloped to an office park or a military airport redesigned to a civil airport.

(Note: The *Leadership and Strategy* competency discusses product life cycle phases and how they affect organizational and FM strategy development.)

Life-cycle costing

Life-cycle assessments have been described as taking a holistic view of an item from the raw material extraction through to the final disposal. While a life-cycle assessment may be applied to a variety of organizational areas (e.g., products, services, real estate and so forth), the focus of the discussion here is life-cycle costing as it pertains to real estate. The discussion is restricted to the facility itself does not deal with land values or other issues outside the facility.

By definition, life-cycle costing (LCC) is the process of determining (in present value terms) all costs incident to the planning, design, construction, operation and maintenance, and disposition of a structure over time. LCC involves the analysis of the costs of a system or a component over its entire life span. The term "whole-life costing" is synonymous with life-cycle costing.

Cost estimates are the heart of life-cycle costing. Because life-cycle costing considers all of the costs incurred during the service life of an asset, it facilitates making economically sound decisions. Certainly, the quality of data is critical in LCC. Computerized management systems that generate data on the physical, financial and functional performance of current properties help to improve life-cycle predictions and informed decisions.



Total cost of ownership (TCO) is a financial management strategy that accounts for the complete life cycle (cradle-to-grave) measurement and management of a physical asset's useful life. TCO is a measure expressed as currency per square meter/foot associated with a facility. It encompasses all facilities-specific costs such as all construction, preservation, maintenance and operations costs divided by estimated lifespan of the building (30 or 50 years) and the total gross area. Furnishings or equipment not specific to the facility are not included in a TCO calculation, and land values are excluded.

TCO represents the sum total of the present value of all direct, indirect, recurring and non-recurring costs incurred or estimated to be incurred in the design, development, production, operation and maintenance of a(n) facility/structure/asset over its anticipated lifespan.

Note: For a more in-depth discussion of TCO, consult the *Operations and Maintenance* competency.

Compared with most other organizational assets, real estate tends to have a long life cycle. Some facilities have fairly low initial costs and experience elevated operating costs. Other times, the timing and costs are flipped; initial sizeable costs are incurred and then taper off over time. Other permutations are possible.

There are many ways to reduce life-cycle costs in real estate. A common dilemma for a facility manager is the entry point. Being able to participate at design (or sooner) is a relatively new paradigm. Oftentimes FM pre-construction participation depends on the architect.

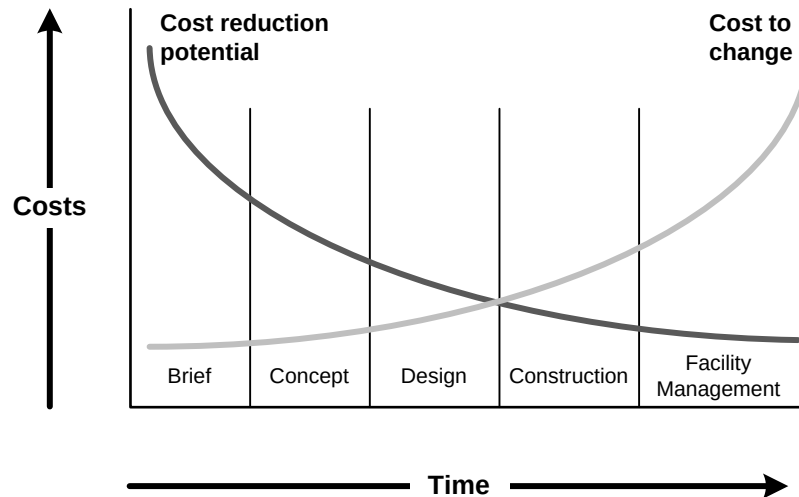
However, as shown in Exhibit 5-61 on the next page, the greatest opportunity to reduce life-cycle costs occurs at the conceptual design phase of a project. It becomes increasingly difficult to impact life-cycle costs once the project design and construction are complete.

To better understand the value of FM participation at design, consider the following real-life examples that demonstrate the benefits of reviewing the lighting through an architect designs for maintainability.

- Without FM involvement, bulbs were nearly impossible to replace and cost many hours of electrician time per bulb due to disassembly requirements. The enclosure for the lamps caused heat buildup, and the bulbs burned out prematurely.
- With FM involvement, an architect and a fixture company created a mock-up of the design for review and a facility management electrician could evaluate the design for maintenance and test performance.



Exhibit 5-61: Cost Reduction Opportunities and Life-Cycle Costs



Because of the significant capital investments committed up front in real estate, a facility manager needs to provide senior executives with accurate cost estimates and robust design and construction alternatives. Key considerations include:

- The expected physical life of the building.
- The expected life of building systems and components.
- Consumption and costs for utilities.
- The various requirements during the life cycle of the building to ensure that it realizes its full life.

Due diligence in these areas helps the organization secure proper funding for a real estate investment and also helps to reduce the risks of not attaining the building's expected life. During the life of the building, LCC sets the stage for reduced long-term annual maintenance costs, minimal breakdowns and operational disruptions, and increased visual and aesthetic appeal. The value of the asset should be preserved, and the resale value should be maximized.

In practice, there are different methodologies for LCC. It is beyond the scope of this discussion to present any specific methodology, but the basic considerations inherent in most approaches are:

- Identifying alternatives.
- Estimating costs.
- Computing life-cycle costs for each alternative.
 - Making cash flows time-equivalent by converting them to present values.
 - Totaling all costs.
- Conducting appropriate risk and uncertainty assessments.



Because life-cycle costing considers all of the costs incurred during the life of a building, it facilitates making economically sound decisions. LCC provides a basis to compare the relative merits of competing real estate alternatives. The economic consequences of mutually exclusive project alternatives (where the acceptance of one capital budgeting project precludes the acceptance of others) can be evaluated over a period of time.

There are different ways to test assumptions made and “what-if” scenarios for high-cost items (such as what happens if maintenance costs are 15 percent more or less than planned). Sensitivity analysis, scenario analysis and other ways of assessing and mitigating investment risks will be reviewed later in this section.

In conjunction with a life-cycle cost analysis, supplementary measures of economic evaluation (such as payback methods, net present value and internal rate of return) are often calculated. LCC is consistent with these other common valuation measures if they use the same parameters and length of study period. These additional capital investment analysis techniques are explained next.

Ultimately, life-cycle costing in real estate facilitates a sound assessment of initial costs, future operational costs, benefits and risks. When similar steps are taken for all real estate alternatives, equitable comparisons are possible. Different alternatives can be ranked (prioritized) when making recommendations to senior executives.

Keep in mind that the lowest LCC may not be the best recommendation based on market economics and the long-term outlook. For example, ownership of a real property asset may have the lowest life-cycle cost, but leasing may be a better financial decision for other reasons.

Investment analysis

An informed decision about a real estate investment requires a great deal of business judgment. Investment analysis plays a large part. Here we review financial analysis techniques that provide important quantitative data for making real estate decisions.

Organizations may choose from a variety of different financial analyses. For the purposes of this discussion, we look at ones that are most common in FM:

- Payback period
- Discounted cash flow analysis (net present value and internal rate of return)
- Risk analysis models



Real estate decisions require the commitment of significant long-term capital resources. In most situations, the decision involves choosing between two or more capital alternatives and typical objectives are to achieve the highest return on capital invested or the greatest cost savings. Investment analysis provides quantitative data that can be evaluated and compared.

Note: Financial software (e.g., electronic spreadsheets) and financial (business) calculators are instrumental in real estate investment analysis. We assume here that you use these technology tools. (If not, it is strongly recommended that you do so.)

Baseline financial concepts and terms

Before we get started with the specific investment analysis techniques, there are a few baseline finance concepts and terms to understand:

- Time value of money
- Project classifications
- Project size, cash flow pattern and life
- Lump sum or annuity
- Discount rate
- Discounted and nondiscounted analysis methods

Time value of money

The time value of money is a principle that states that a dollar in hand is worth more than a dollar to be received in the future because it can either be consumed immediately or put to work to earn a return. Given the choice between receiving US\$10 today and receiving it in one year, most of us would take it right now. However, if the choices changed to receive US\$10 now or US\$20 in one year, then the decision becomes more complicated. The question comes down to risk and the time value of money.

To further explain the time value of money, let's consider an example.

Example:

A facility manager estimates a property to be a US\$6 million investment. As shown below, if finance could invest the US\$6 million and secure a 10 percent annual interest rate (rather than investing the money in the property), US\$6,000,000 would be worth almost US\$7,260,000 in two years because of the cumulative interest earned.

Period	Beginning Value	Interest Earned	Ending Value
1	US\$6,000,000	+ US\$600,000	US\$6,600,000
2	US\$6,600,000	+ US\$660,000	US\$7,260,000



This simple example demonstrates that money has value over time. It also sets the stage for a discussion of two additional capital investment concepts: present value and future value.

In **present value** (PV), all cash flows are converted to their present value or the value of past and future dollars corresponding to today's value. PV is the amount that a given future amount is worth today at a specific rate of interest. In our example, the US\$6,000,000 is the present value.

Future value (FV) is the amount that a given amount, invested today at a given rate of return or interest rate, will be worth at some designated future time. The US\$7,260,000 is the future value.

There's a simple formula used in finance to calculate the time value of money.

Present value x Future value interest factor = Future value

$$\text{US\$6,000,000} \times 1.210 = \text{US\$7,260,000}$$

Note that the future value amount arrived at in this calculation is the same as the future value shown earlier. Where did the 1.210 future value interest factor come from? Finance has interest factor tables. Financial textbooks include these tables to explain the time value of money and investments. For years, it was necessary to locate the appropriate interest multiplier in a table (in this case, for 10 percent over two years, the factor is 1.210) and then do the calculation. That is where calculators and electronic spreadsheets are helpful, as they have the interest factors and formulas preprogrammed. If you know the variables, the time values are easy to determine.

Understanding future value is fairly intuitive—you invest money and you collect interest. If the investment is secure, you can reasonably expect the future value to increase.

Understanding present value is a bit more involved but not overly complex. Present value is the monetary value today of a future payment that is discounted at some appropriate interest rate. The present value of US\$7,260,000 is US\$6,000,000. In finance jargon, the 10 percent interest rate is called the discount rate. As with future value, there are present value interest tables for calculating the present value of money received in the future.



The formula used in finance to calculate the present value is:

Future value x Present value interest factor = Present value

$$\text{US\$7,260,000} \times 0.826 = \text{US\$5,996,760}$$

The present value interest factor for 10 percent over two years is 0.826. The reason for US\$5,996,760 (not US\$6,000,000) is rounding of the present value interest factors in the table. Again, facility managers do not have to do manual calculations like this. Financial calculators and spreadsheets can perform the calculations. We have shown it here for explanatory purposes.

Two final points about future value and present value:

- The operation of evaluating a present value into the future value is called capitalization or compounding. In our example, it shows how much US\$6,000,000 today will be worth in two years.
- The reverse operation—evaluating the present value of a future amount of money—is called discounting. This explains how much US\$7,260,000 received in two years—at some interest rate—is worth today.

In many organizations, the finance department is responsible for time value calculations. Facility managers may have little (if any) responsibility related to calculating the numbers. The basic point here is that you should understand the terms and the concepts because it is part of the language of senior management and a large part of real estate investment analysis.

Project classifications

When evaluating potential capital investments, the distinction must be made between independent and mutually exclusive projects. Acceptance or rejection of an independent project has no impact on the acceptance or rejection of other projects under consideration. In the previous discussion of life-cycle costing, mutually exclusive projects were described as situations where the acceptance of one capital budgeting project precludes the acceptance of others.

Project size, cash flow pattern and duration

Size is self-explanatory. Cash flow is the income from all sources less expenses, indicating how much cash is available at a given time. It refers to the actual inflow of cash into cash receipts and savings and outflow of cash payments of an organization during a given period of time. Estimating capital project cash flows is critical because erroneous assumptions or inaccurate or unreliable data can corrupt the entire capital budget. Duration in this context



generally refers to the duration (life) of the project or the stages of a project over time (from initiation to completion).

Lump sum or annuity

As the name implies, a lump sum (or sum) is a single payment of money as opposed to a series of payments made over time (such as an annuity). An annuity is a series of cash flows that are equal and periodic. Real estate investment analysis involves both lump sums and annuities.

Discount rate

A discount rate is the rate at which future cash flows are discounted because of the time value of money. The discount rate is the interest rate used to compute a present value amount. Stated another way, an organization's discount rate is the opportunity cost of money to that organization or what it costs to raise capital. Facility managers must know their organization's discount rate and use it in all financial analyses. In our previous example, the 10 percent interest rate is the discount rate.

Discounted and nondiscounted analysis methods

Various investment analysis techniques are often broadly classified as discounted and nondiscounted. The basic distinction between the two is the recognition (or not) of the time value of money.

Discounted methods recognize the time value of money. They acknowledge that investments promising earlier returns are preferable to investments promising later returns. Examples of discounted methods include net present value and internal rate of return.

Nondiscounted methods do not explicitly consider the time value of money. Each dollar earned in the future is assumed to have the same value as each dollar that was invested many years earlier. Payback period is an example of a nondiscounted method.

The use of discounted methods has increased over the years. Some organizations still use nondiscounted methods. Many organizations use both types.

With knowledge of these baseline finance concepts, we next review the various investment analysis techniques.



Payback period

Payback period is the length of time it will take to recoup an initial investment cost. There are different variations of the payback period calculation, but they all answer the basic question “How quickly will the initial investment be recovered?” The simplest payback period calculation is a nondiscounted method.

$$\text{Payback period} = \text{Initial investment} \div \text{annual net cash flow}$$

Organizations typically set a target payback period (PP)—the maximum cutoff considered to be an acceptable length of time for a project. General guidelines based on a target payback period are:

- Projects with a PP shorter than the target are accepted; those with PPs longer than the target are rejected.
- For independent projects, accept if the PP is less than or equal to the maximum payback period; otherwise, reject.
- For mutually exclusive projects, accept the shortest PP that is less than or equal to the maximum payback period.

A short PP is preferred because the invested funds are at risk for a shorter time. The sooner the investment is recouped, the sooner those funds are available for other uses.

Discounted cash flow (DCF) analysis

Discounted cash flow (DCF) analysis adjusts cash flows over time for the time value of money. DCF methods are used to evaluate a capital investment by comparing the equivalent present values of all future net cash flows for the initial investment. Two popular DCF methods are net present value and internal rate of return.

Net present value (NPV)

Net present value is the monetary value today that an investment project earns after yielding the desired rate of return for each period during the life of the investment. NPV uses a specified discount rate to bring all subsequent net cash flows after the initial investment to their present values at the time of the initial investment. NPV emphasizes the dollar amount at the time of the investment.

$$\text{NPV} = \text{Present value of future cash flows} - \text{Present value of cash outflows}$$

The typical finance decision rule for NPV for accepting or rejecting projects is zero. For independent projects if the NPV is zero or greater, an investment project is acceptable. For mutually exclusive projects, the investment with the highest positive NPV should be accepted.



In practice, facility managers must compete for capital investment financing. Many FM projects do not generate revenue. As a result, they often have a negative NPV. Chances are that other colleagues will have projects with positive NPVs. Therefore, a facility manager needs to correctly frame any NPV discussion with senior executives, the board, the finance department and others. The least negative NPV for an FM project is typically the best choice.

Internal rate of return (IRR)

Internal rate of return is the return on investment a company typically realizes (or targets to realize) based on its past track record regarding asset investments. It is the interest rate at which lifetime dollar savings equal lifetime dollar costs after the time value of money is taken into account.

IRR estimates the discount rate that makes the present value of net cash inflows equal to the initial investment—a discount rate that will make the NPV of an investment zero. IRR yields a percentage showing the return on each dollar invested.

The decision rule for IRR compares the estimated internal rate of return for a capital investment to a predetermined criterion. The criterion rate (hurdle rate) serves as a cutoff point.

- Projects below this cutoff rate are rejected unless they are mandatory projects.
- For independent projects, accept if IRR is equal to or greater than the criterion rate; reject if IRR is less.
- For mutually exclusive projects, the investment with the highest positive IRR that exceeds the criterion rate should be accepted.

Both NPV and IRR investment analysis have specific values for each input variable entered in the calculation. Next we look at investment analysis models where the values on many input variables are uncertain.

Risk analysis models

Fundamentally, there are no risk-free capital investments. Assumptions, judgment and intuition often enter into decision making. Risk analysis models attempt to replace assumptions, judgment and intuition with more explicit financial estimates to assess potential risks and reduce them to maximize returns.

Rather than single-point estimates, input variables in risk analysis models are defined as ranges with associated probability distributions. A risk analysis



model generates a range of possible returns (rather than a single value). Ideally, a risk analysis model establishes the probability of receiving different rates of return on an investment as the various risks unfold.

Sensitivity analysis and scenario analysis are two risk analysis models that attempt to quantify the information gap between what is known, and what needs to be known for an optimal investment decision. Exhibit 5-62 summarizes key characteristics of these two risk analysis models.

Exhibit 5-62: Common FM Risk Analysis Models

Model	Description
Sensitivity analysis	- Measures the change in one variable as a result of a change in another variable. - Helps determine which variables have the greatest impact on a capital project's outcome. - Uses a "what-if" spreadsheet technique to evaluate how NPV, IRR and other indicators of the profitability of a project change if the discount rate, labor or materials costs, sales or some other factor varies from one case to another. - Assesses how sensitive the NPV, IRR or another specified profitability measure is to a change.
Scenario analysis	- Examines what happens to profitability estimates such as NPV if a certain set of events (called a scenario) arises. - Examines probability estimates against different sets of assumptions or conditions.

Risk may be categorized as individual project risk or portfolio risk. In real estate and facilities, individual project risk implies that the risk associated with an investment can be considered independently of the risk in other investments. Portfolio risk notes the collective risk of multiple investments.

The *Finance and Business* competency provides additional information on capital investment analysis and the time value of money as well as techniques for minimizing investment risk. We recommend that you review the content for a more in-depth understanding of the finance concepts and investment analysis approaches we have overviewed here.

Operational risk structure

Management of financial risk is critical for an organization. The large sums typically involved in capital investments mean that any risk exposure can have damaging financial consequences.



Another important aspect of risk that a facility manager needs to be aware of is operational risk structure. A facility manager should adequately assess new activities, processes and systems before they are introduced or undertaken and ensure that the operational risks inherent in them are identified, monitored and managed appropriately. For example, when undertaking new lighting control strategies for a multi-building campus, the migration from traditional time-based control to sensor-based control protocols could be a phased rollout, starting with a couple of buildings before full-scale implementation.

At a tactical level, the management of operational risk must be a responsibility shared and understood by all FM service providers. Staff and external service providers should be aware of the operational risk exposures in their area and how the risks could affect business continuity. Service providers should have responsibility for managing those exposures within their own control.

Intended use

Businesses have unique real estate requirements based on what they do and how they do it. As a simple example, consider how office complexes, shopping malls, restaurants and other commercial properties differ from industrial properties. Even within each category, real estate widely differs in meeting the property requirements of prospective owners and tenants.

Zoning systems typically regulate the use of property. Zones separating commercial, industrial and residential property typically have clear demarcations. In order to grant permission to build a new office complex, for example, government regulators must confirm that the chosen area is indeed commercial property. If any part of the commercial property extends into an industrial zone or residential area, a variance (special permission to cross over a zone boundary) may be required.

Intended use impacts everything from the physical site to the facility itself. In the recent past, technology demands have become inextricably linked with intended use, affecting where people work, where they shop and even how they spend their leisure time. Technology affects tenant demand for commercial real estate by property type and particular buildings. Technology also influences demand for properties by investors.

As it pertains to technology, the demand for “intelligent buildings” is prevalent. There are many attributes of an intelligent building. Depending on the intended use of any particular building, these characteristics will vary in importance. The most important attribute, in general across all property types,



is the voice and data communications network. Other important building attributes include energy efficiency, lighting and security.

Understanding the many components of intended use helps to ensure that:

- Physical and aesthetic aspects of a property accommodate space and operations requirements.
- Location environment and surroundings do not present any safety or security issues.

✦ Topic 2: External Factors That Affect Real Estate Decisions

In addition to internal factors, there are several factors outside of the organization that influence real estate decisions. Here we examine how real estate management is influenced by the economic cycle, the age of the development, cyclical market conditions, highest and best use studies, government regulations, standards and the cost of money.

Economic cycle

The term *economic cycle* refers to economy-wide fluctuations in production or economic activity over several months or years. While the connotation of economic cycles is the aggregate economic activity of nations, the up-and-down movements in economic activity cascade down to the organizational level.

Whether an organization is in a period of contraction or expansion affects real estate decisions.

Examples:

In a contraction period

- An organization in a leased space may not renew a lease and might consolidate operations in less space.
- An organization will look closely at terms and conditions (T&Cs) of its lease in order to take advantage of remitting space to the landlord or subleasing space. Or the organization will take the opportunity to renegotiate lease T&Cs at better rates.
- An organization may defer more maintenance.

In an expansion period

- An organization may increase available real estate through additional leases or through purchase or construction of a facility.
- An organization might take advantage of lease T&Cs to add space to its portfolio in order to accommodate the growing demand for space as the business continues to grow.
- An organization may implement capital improvements such as new buildings, renovations and additions.



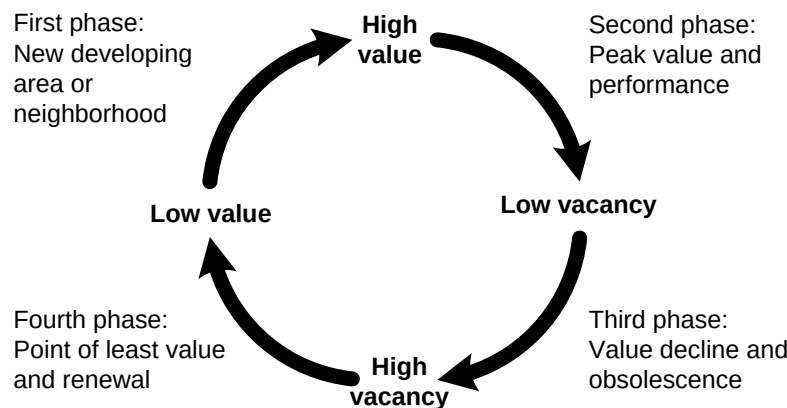
Age of property development

Age of property development is an important consideration in any real estate decision. Newer properties tend to hold more value than older real estate.

In real estate, a neighborhood is generally described as an area that shares similar amenities, such as unique area characteristics, transportation routes or localized economic conditions. Over time, each neighborhood typically goes through a four-phase cycle. Typical cycles last about 40 to 50 years, the same as the life of an average building structure.

Exhibit 5-63 illustrates the cycle associated with the age of property development. The four phases are discussed following the exhibit. It should be noted, however, that the creation of a high-performance building through sustainable operations increases building valuation regardless of age.

Exhibit 5-63: Phases of Property Development (continued on next page)



Phase	Characteristics
First: New developing area/neighborhood	Refers to a newly developing area or neighborhood that is increasing in value. Example: New industrial parks that are attractive continue to increase in value as they are built out.
Second: Peak value/performance	Takes place when a neighborhood has been totally developed, is attractive, landscaping has matured and business income is at its maximum. At this stage, the real estate value is at its peak. Example: Vacancy rates are low in an industrial park considered as "prime." Due to the size, topography and infrastructure investment, the site is not easily replicated elsewhere. The land is well-located and viable for industry within the market area.



Exhibit 5-63: Phases of Property Development (concluded)

Phase	Characteristics
Third: Value decline/obsolescence	Occurs as the real estate begins to age, exterior designs begin to look outdated, and the wear and tear of the property begins to show. There may be some functional obsolescence of the real estate. Example: A location is no longer considered a “hot spot,” and the overall value of the property is decreasing. Newer industrial parks are luring occupants to relocate.
Fourth: Least value/renewal	Reflects the real estate at its lowest value. The cycle is about to begin anew. Buildings may be demolished or remodeled. After the renewal takes place, the property is revitalized and the value of the property begins to increase once again. Example: An aging industrial district contains contaminated sites and is vacant or under-utilized even though it is in a strategic location relative to infrastructure. Adding land to an urban growth boundary is planned. The rationale is that in urban renewal areas, development generates additional tax revenues to finance bonds for revitalization projects. Bond revenue finances improvements in roads, sewers and other public improvements and stimulates private investment and an increase in property values. This goal of this revitalization approach is to attract new employers, encourage existing employers to stay and expand the supply of serviced, developable land and the assessment and cleanup of contaminated properties.

Cyclical market conditions

To a large degree, real estate prices rise and fall in reaction to the overall economic market. Generally speaking, in economic downturns, demand decreases, larger volumes of floor space are available and values fall. In strong economic periods, demand increases, real estate activity increases and prices rise. To some extent, however, prices can lag due to the time it takes to buy and sell property.

The impact of supply and demand pressures on real estate cycles is summarized in Exhibit 5-64 on the next page.

Market trends

A trend implies the general direction in which something is developing or changing. In real estate, a trend is a generic term describing any consistent pattern or change in the general direction of the real estate industry. Real estate market trends can be a result of the economy, a change in mortgage rates, speculations or many other reasons.



Exhibit 5-64: Supply and Demand Economic Conditions

If ...	Then ...
Demand exceeds supply.	• Values increase. • Vacancy rates decrease. Result: Prices may rise in certain areas because there is a shortage of space. Developers and lending institutions (banks) begin to build or remodel in response to a perceived need for new space.
Supply meets demand.	• The price of real estate is at its maximum • Vacancy rates are at their lowest Result: The balance between supply and demand has been reached. There is a saturation point of desired space. An excess of space may start to occur if markets get overbuilt (because new real estate developments take time to develop).
Supply exceeds demand.	• Values decrease. • Vacancy rates are high. Result: The market is overbuilt and/or there is an oversupply of space. Incentives may be offered to induce tenants to take space. Prices generally decline until the demand for space catches up. In some markets, green buildings are a differentiating factor and will attract more tenants than “brown” (less efficient) buildings.

Trends, however, can change—for better or worse. For example, a real estate market may become saturated faster than anticipated. Unused reserve financial capital may be waiting for investment opportunities. Or investors may be waiting to capitalize on attractive opportunities.

It is always wise to monitor real estate market trends. There are numerous public and private (fee-paid) sources of current commercial real estate market knowledge available to help you do so.

Highest and best use

Highest and best use (HBU; also called highest or best use) factors also impact real estate decisions. Highest and best use describes the probable and legal use for a parcel of real estate that is physically possible, appropriately supported and financially feasible and that results in the highest value. When the market value of real property is sought, that value must be based on its highest and best use appraisal.

In order for land or property to be considered as the highest and best use, any potential use must pass a series of four tests: legally permissible, physically possible, financially feasible and maximum productive use.

Exhibit 5-65 looks at each of the four tests, including simple examples.



Exhibit 5-65: Highest and Best Use Tests

Test	Description	Example
Legally permissible	Determines what uses are (or may be) legally permissible. Existing leases, deed restrictions, zoning, building codes, environmental regulations, uses forbidden by government regulations and uses prohibited by deed restrictions or covenants may all influence potential use.	A government agency wants to lease excess administrative space to a charter school. The space is in a community area that is compatible with this function.
Physically possible	Considers the location, size, shape, topography, transportation, accessibility and other characteristics of the property.	The space is available in two adjacent facilities that together provide enough space for the charter school.
Financially feasible	If the use is intended as income-producing: Analyzes income-producing uses to determine which are likely to produce income, or return, greater than the amount needed to satisfy operating expenses, financial obligations and capitalization. Any uses that can be expected to produce a positive return are considered financially feasible. If the use is not intended as income-producing: Analyzes uses that are likely to create a value or result equal or greater than the amount needed to develop and market the property under those uses. If intended for private/personal use: Assesses the value of a property for personal use and whether it is sufficient to offset the lack of an income stream from an external source.	The agency's regulations require that fair market value rent be collected either as cash or payment-in-kind. The charter school is able to pay with a combination of facility improvements, O&M and cash.
Maximum productive use	Assesses which use will yield the greatest long-term economic return to the owner or value consistent with the rate of return indicated by the market; the use that produces the highest price is considered to be the most productive.	No other suitable lessees were identified for the facilities. The capital improvements, cash payment, and assumption of O&M costs by the school are a better option for the agency than leaving the space vacant yet still maintaining a caretaker status.

After applying the first two tests in highest and best use determination, potential uses that are not legally permissible or physically possible are eliminated from consideration. The potential uses that do satisfy the first two elements are then subjected to the third test, financial feasibility. The fourth and final element involves determining which uses that have met the first three tests will result in maximum profitability.



Highest and best use is shaped by the competitive forces within the market where the property is located. This is true whether the parcel is vacant land or an improved property. Highest and best use is always that use that would produce the highest value for a property, regardless of its actual current use.

Highest and best use should also account for zoning homogeneity and nonconforming use. It is especially important to talk to local building and planning boards and/or brokers.

Examples:

A planned urban development may negatively impact the market area. Consider an asphalt recycling plant license for a nearby multiyear road reconstruction project. The intention to place the plant on a vacant parcel near a residential area or business district will have implications for the environment as well as traffic patterns and pedestrian inconvenience.

Before implementing a plan to build out new space in a metropolitan area, it would be prudent to talk with local brokers to learn about potential development plans.

Highest and best use for a single site may seem intuitive. However, as we have seen in Exhibit 5-65, research and analysis on a variety of factors make the task complex. The value of a particular piece of real estate and its highest and best use are largely based on the following criteria.

- **Geographic location.** Much can be said about the value of a property by its location. Location is often defined as a neighborhood. Access to transportation and adequate infrastructure are very important in a neighborhood.

Geographic location may be influenced by marketing. As an example, international banks in a foreign country may sacrifice some building quality to secure a city corner location that is visible and easily accessible to customers.

- **Property type.** The broadest categories of property are commercial, industrial, agricultural and residential. In addition to type of property, quality is also important. Class A, B or C building structures appraise quite differently. Operating a sustainable building or being “green” can sometimes elevate a Class B building to Class A.

Similarly, core properties (or core-plus properties) generally secure better interest rates because they have been built within the past five years or recently renovated and are considered to be “premium” in terms of location, architecture, sustainability and other features.



- **Use type.** Different uses of a property may respond differently to changes in economic factors. Due to current economic changes, a space may better serve as an Internet café with free Wi-Fi than as a retail boutique. Conditions and economic demands change.
- **Degree of competition.** Supply and demand for similar types of properties affect market value. Over- or under-supply may affect occupancy rates, vacancy rates and values.
- **Local land supply.** Growth requires land to expand for all types of real estate uses to create a vibrant and growing community. Land supply is absolutely the issue, but the price of land changes. For example, if land is in short supply, prices will increase.
- **Level of income.** A high income level in a certain area can create demand for goods and services and drive the real estate market up. Low income levels have just the opposite effect.

Other income factors can impact real estate. In China, for example, income levels relate to the development of the city or region so the cities are categorized by tiers.

- **Employment levels.** Employment levels drive high or low income levels and the demand for goods and services. Shifts in demand in industries can have an effect on employment and population migration.
- **Population.** Total level of population, growth rate, population demographics and regional population movements also affect real estate market values.
- **Price-distance relationship.** It is a given that in a competitive economy an owner will seek the highest and best use of the property that will bring the greatest return on the investment. Based on the concept that the center of the community usually brings the highest demand for real estate, the closer a property is to the center, the greater the value. Conversely, the farther away from the center, the lesser the value.

Consider how all these highest and best use study criteria interact in the following example.

Example: Highest and best use study

A mature organization is growing and in need of more space. The facility manager is given an assignment to evaluate the current and future market value of a property owned by the organization.



The questions that are being asked are:

- Should the organization hold on to the property?
- Should the organization sell the property?
- What is the approximate value of the property right now?
- What will be the approximate value of the property five years from now?

After some investigation and the help of a local real estate broker, the facility manager is able to gather the following information.

Acreage	The amount of acreage is 1.3 acres or 56,628 square feet (ft ²)/~5,260.91 square meters (m ²). Note: An acre is equal to 43,560 ft ² /~4,046.86 m ² .
Market value of the land	Market value may be calculated using different methods (e.g., sales comparison, market comps or an income method). Using the sales comparison approach, several local brokers tell the facility manager that similar acreage in the area has sold for approximately US\$300,000 per acre or US\$6.89 per ft ² in the last six months.
Building	This is a Class B building, used as office space; it is 100 percent occupied by the owner, 4,500 ft ² /~418.06 m ² , five years old and has a brick veneer. The building has a favorable energy efficiency rating (e.g., Energy Star score).
Replacement value of the building	After speaking to several building contractors, the facility manager learns that the cost to replace the building or to build a new one similar to the existing building would be US\$110 SF. Improvements for parking and landscaping would cost US\$4 per ft ² .
Purchase price	The property was purchased for US\$620,000 five years ago. The property has been on a 10-year amortized loan. The balance to be paid on the loan is US\$278,000 over the next five years.

Here is a summary of the information gathered.

Land value	$56,628 \text{ ft}^2 \times \text{US\$}6.89 = \text{US\$}390,167$
Building replacement value	$4,500 \text{ SF} \times \text{US\$}110 = \text{US\$}495,000$ (less wear and tear and other depreciation)
Acreage improvements	$56,628 \text{ ft}^2 - 4,500 \text{ ft}^2 = 52,128 \text{ ft}^2 \times \text{US\$}4 = \text{US\$}208,512$
Approximate market value	US\$1,093,679 (less wear and tear and other depreciation). No equipment, furniture or other personal property is included in the estimation of value.
Appreciation	Over the last five years, the value of the property has appreciated from US\$620,000 to approximately US\$810,000. This is a six percent per year appreciation. It is expected that the same appreciation rate will continue for the next five years.



Here is an evaluation of the highest and best use elements.

- **Geographic location.** It is in an excellent location where the business growth is still on the upswing of the neighborhood value.
- **Property type.** The zoning for the area controls the use, which is retail and low-density office space. It is a typical suburban office neighborhood.
- **Use type.** The subject property is of equal make and style to other buildings and property in the area and has a favorable energy efficiency rating.
- **Degree of competition.** The area is in a well established neighborhood built out five years ago. It has only a five percent vacancy rate and very few properties for sale.
- **Local land supply.** No local land is currently available, and any available land is more than 10 miles away.
- **Level of income.** Annual demographics show that income levels are higher than the regional norm.
- **Employment levels.** The unemployment rate is below eight percent, and the economic outlook looks strong.
- **Population.** The population is growing at a rate of four percent per year.
- **Price-distance relationship.** The subject property is more than eight miles from the most expensive real estate in the community but is in an urban business district that is highly favorable because of easy access and a shorter commute for workers.
- **Regulations.** The subject property is in compliance with all pertinent regulations.

Returning to the original questions asked of the facility manager, here are the highest and best use answers.

Question: Should the organization hold on to or sell the property?

Answer: Hold on to it. Thus far, it has been profitable and for now it appears that it will continue to be so. (Any dramatic economic changes may warrant reconsideration.)

Question: What is the approximate value of the property right now?

Answer: The property is worth approximately US\$810,000.

Question: What will be the approximate value of the property five years from now?

Answer: The property will be worth approximately \$1.4 million with the mortgage loan retired ($\text{US\$810,000} \times 1.12 \times 1.12 \times 1.12 \times 1.12$).



The take-away message regarding highest and best use studies of real estate is that they are critical when evaluating real estate and making recommendations. Because of the complexity inherent in highest and best use analyses, a facility manager may need to secure the services of real estate professionals to help identify highest and best use to maximize returns.

Government regulations

It is not possible to deal with the complexities of all the laws and regulations that influence real estate in any great detail here. Laws differ from country to country. Even within a country, there are different regulations. For any given property, there is a nexus of numerous real estate laws. Consider but a few of the extremely complex legal issues:

- Residential and commercial property use
- Ownership rights and limits (versus leasing)
- Nondisclosure and confidentiality agreements
- Tax regulations
- Tax increment financing (which dedicates tax increments within certain defined tax incentive districts to finance debt)
- Labor law issues (such as work counsel space requirements)
- Building codes (such as accessibility)
- Health and safety regulations
- Environmental regulations

Regulations can (and often do) change. The point here is that a facility manager must be aware of specific regulations that can impact the organization's real estate holdings and consult with proper professionals to ensure compliance. Due diligence is essential.

Check the Web for current regulations that may impact organizational properties. There are numerous Web sites and online databases (some may be fee-based) that provide actual and local information about regulatory items.

Standards

Many standards shape organizations' real estate decisions. Similar to the regulatory environment, it is not possible to cover the vast array of standards shaping the development, planning, design, retrofit, rehabilitation, use and management of buildings and facilities. We can only offer a few insights here.

One of the principal standard publications that facility management professionals and building owners and managers encounter is the *ASTM Standards for Whole Building Functionality and Serviceability*. ASTM (formerly the American Society for Testing and Materials) standards specify a variety of tools and methods for



setting requirement levels for the functionality and usability of offices and other facilities. ASTM provides a forum for interested parties to write standards documents that best meet their needs. Other countries and regions have other similar standards and guidelines to help ensure the efficient and cost-effective use of space.

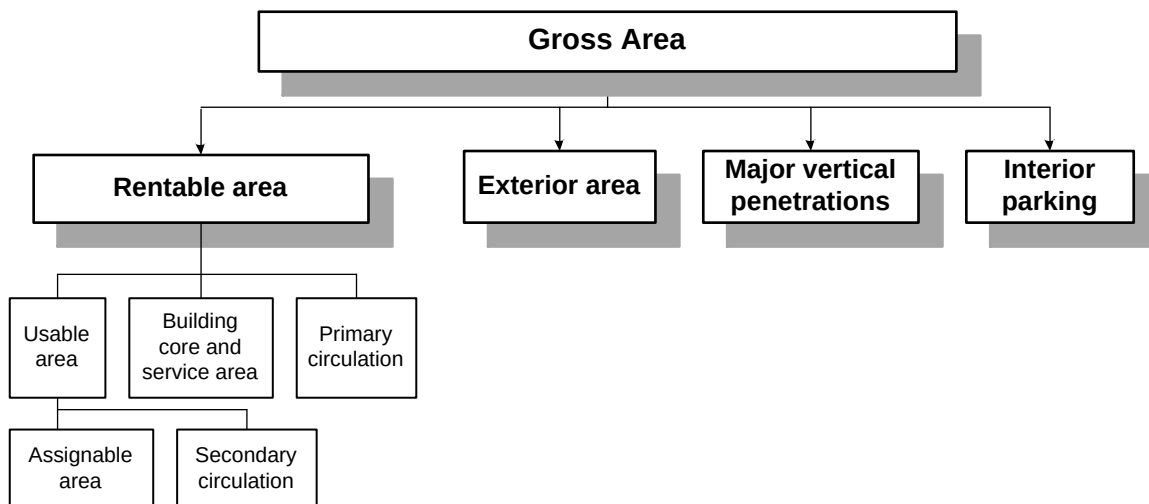
ASTM/IFMA and BOMA (Building Owners and Managers Association) have numerous standards to measure floor area in office buildings:

- ASTM E1836/E1836M-09e1, “Standard Practice for Building Floor Area Measurements for Facility Management” (also known as ASTM, ASTM/IFMA or the IFMA standard), is used primarily by facility managers to determine the amount of floor area available for fit-up and chargeback.
- ANSI/BOMA Z65.1 – 2010, “Office Buildings: Standard Methods of Measurement” (also known as ANSI/BOMA or the BOMA standard), is used primarily by building owners and managers to determine the amount of rentable and usable area available for lease.

IFMA and BOMA have a set of definitions and a measurement methodology that can be referenced by both standards.

There can be some confusion about how measuring floor area is done. It is to your advantage to use a standard method because it is easy to compare and benchmark costs to other real estate. Exhibit 5-66 shows the relationships among various floor area measurements (allocated from the facility gross area down through assignable and secondary circulation). The exhibit is excerpted from the IFMA/ASTM space measurement standard.

Exhibit 5-66: Building Floor Area Measurements



In addition to ASTM, IFMA and BOMA, there are other resources for real estate standards. OSCRE International, Ltd. (Open Standards Consortium for Real Estate), for example, provides numerous global industry standards for real estate information exchange. Global information standards to support the sustainability of buildings and enable intelligent and efficient management of real estate are an area of increasing prominence.

In the United States, the National Association of Realtors® (NAR) promulgates a Code of Ethics and Standards of Practice. In some cases the NAR Code of Ethics establishes obligations that may be higher than those mandated by law (although, in any instance where the Code of Ethics and the law conflict, the obligations of the law take precedence).

Many other standards exist and form the foundation for benchmarking and best practice in real estate. There are standards on workable space, accessibility, seismic risk assessment, energy evaluation and monitoring, quality management and more. Types of organizations (e.g., educational, financial, health care, legal and consulting and so forth) have unique standards. Corporate-specific standards exist. And unique standards are set by countries, regions and locales. In the EU or Japan, for example, standards (such as minimum space per person for an office) are enforced by local law.

There are some real estate standards that are universal to every facility type, shape and size. But there are many standards unique to your situation and organization. Sometimes, a standard may be a hybrid of the specific ones discussed here (which are generally considered the accepted norm). As a facility manager, you may have to develop or comment on your organizational standards.

Visit the IFMA Facility Management Learning System online Resource Center for a sample space utilization manual used in the Commonwealth of Pennsylvania (U.S.). It outlines standards for determining space requirements, provides guidelines for office planning and layout and establishes procedures for allocating space and partition modifications for commonwealth-owned and leased buildings.

With standards, as in so many areas of FM, due diligence is required. Know what standards your organization follows.

(Note: Standards for measuring space are discussed in a bit more detail in Topic 1 of Chapter 3, “Site and Space Management.”)



Financing

Commercial real estate financing is a complex endeavor. Certainly, as a facility manager, you will need to work with others on financing options, regardless of whether the organization intends to purchase or lease. We cannot explain all the intricacies of commercial real estate financing here, but we offer basic insights about a few key concepts you should be aware of:

- Capitalization rates
- Mortgage payments
- Sinking fund
- Impact of currency fluctuations
- Interest rate risks

Capitalization rates

It is not easy to obtain commercial real estate loans for property purchase. When purchasing a property, an important consideration is the future value and earnings of a property.

How do you know what a commercial property is worth before you buy? One conventional way of projecting the income value of property is determining the capitalization rate (or cap rate).

There are different ways to calculate a cap rate for a property. Real estate brokers often determine the cap rate to price a property by taking the net operating income (NOI) for the property and dividing it by the sales price.

Example:

Where a property has an NOI of US\$300,000 and the sales price is US\$2,700,000:

$$\text{Cap rate} = \frac{\text{Net operating income (NOI)}}{\text{Sales price}}$$

$$\text{Cap rate} = \frac{\text{US\$300,000}}{\text{US\$2,700,000}} = 11.11\%$$

This method of calculating cap rate provides a market-driven number derived from comparable sales. It represents the projected return for one year as if the property were bought with all cash. When a property is not bought with cash (which is often the case), the calculation is more involved (sometimes by trial and error) to find the cash return on the actual investment using leverage (debt).



Cap rates are essentially measures of risk and reward. Different types of properties will, of course, have different cap rates. For example, in one regional area, hypothetical cap rates might be:

Downtown office	7.5 percent
Suburban office	8.2 percent
Industrial building	7.8 percent
Hotel	8.6 percent
Shopping mall	7.5 percent

Brown (less efficient) buildings typically have a higher cap rate because of greater risk.

Many factors can influence the value of a property, both up and down. For example:

- Deferred maintenance.
- The security of the income stream from tenants and length of the leases.
- Comparable sales in the area.
- General economic and market conditions.
- Local market conditions.

All these factors speak to the relative risk and effort involved in the continuance of the income stream. They must be investigated through due diligence. Should the instability or cost of any of the factors increase, it may be necessary to increase the required return on cash invested to offset the increased risk taken and the increased effort required to mitigate that risk.

Mortgage payments

Before discussing mortgage payments, we offer baseline definitions of the terms *mortgage* and *mortgage amortization*.

A mortgage may be generally defined as a contract by which real property is pledged as security for a loan. Mortgages can be placed on any property whether it is being purchased or already owned by the borrower. Mortgage payments are fixed by law for a period of time. Compared with other debt instruments, a mortgage may have lower interest rates, fewer financing restrictions and a longer maturity period.

Mortgage amortization refers to the process of gradually retiring a mortgage, paying the loan on an installment basis.



As a facility manager, you should be able to calculate mortgage payments. It takes three factors to calculate a monthly mortgage payment:

- Term of the loan (the time)
- Interest amount (rate) charged by the bank or lending institution
- Loan amount

The typical parts of a mortgage payment are:

- Principal and interest (often referred to as P&I).
- Taxes and insurance (often referred to as T&I and typically collected and paid by the mortgage company).

Oftentimes a total monthly mortgage payment is given as PITI.

The Internet offers a variety of tools that allow you to calculate mortgage payments. For example, there are sites that offer online calculators, instructions for using financial calculators, tables available that help to estimate payments and more.

An amortization schedule shows how much of a payment is applied to the loan principal and how much is paid to interest over time. The amortized method extracts a lot of interest early in the loan and less as the loan matures.

Sinking fund

A sinking fund is a fund set aside for periodic payments to cover the costs of future capital expenses and reduce the financing obligation to buy or expand real estate.

The principal deposited into a sinking fund earns interest. The total amount earned in the sinking fund (principal plus interest) may be used for various purposes. For example, a sinking fund may be used for maintenance such as painting the building, parking lot refurbishment or the replacement of common property items like carpeting, roofing and gutters.

Did You Know?

In some regions and countries, sinking funds are required by law. For example, a property owner may be required to have a 10-year sinking fund plan in place. This means that owners must plan how they will repair and maintain common property and raise sufficient funds to cover the costs. The amount required for the 10-year plan will vary. Green buildings may require less money than brown (less-efficient) buildings with more repair work due. Each sinking fund plan needs to reflect individual property requirements.



Impact of currency fluctuations

Currency fluctuations are ongoing changes between the relative value of one country's currency compared with another. A rising domestic currency means that foreign investments will result in lower returns when converted back to the domestic currency. The opposite is true for a declining domestic currency.

International real estate investments are complicated by currency fluctuation and conversion between countries. For example, a high-quality property investment in another country may prove worthless should the domestic currency weaken. In fact, foreign-denominated debt used to purchase property can even result in bankruptcy if the domestic currency tumbles in a fast decline or there is a rapid rise in the currency of the foreign-denominated debt.

Interest rate risks

It goes without saying that no one knows the future. But it certainly helps to recognize that interest rates can affect real estate values.

A typical byproduct of low interest rates is over-borrowing. When money is "cheap," businesses tend to spend more and expand when they might not have otherwise. History has repeatedly shown the consequence of this—many organizations that gear up during these periods eventually face over-capacity and higher fixed operating costs when the proverbial bubble bursts and the demand for goods and services diminishes.

Compounding the situation, most business loans are not long-term loans. Many commercial real estate loans, for example, are made with a renewal period every three to five years but are amortized over a longer period, typically 20 to 25 years. At the time a loan is made, lenders customarily tell commercial borrowers that renewal will not be a problem. But when there are significant drops in values, lenders often balk at renewing commercial loans, including those that have been paid on time.

Consider the following not-so-hypothetical example.

A commercial loan for a shopping center for US\$8 million was not renewed even though the borrower had good credit and the shopping center was performing well. The bank told the borrower it did not want to continue lending on commercial properties because of a dismal economic outlook.

Supply and demand is still foundational. In some areas, there is an excess of properties; in others, demand is stronger. But when lenders are no longer interested in renewing current loans, even viable businesses are placed in jeopardy.



Progress Check Questions

Directions: Read each question and respond in the space provided. Answers and page references follow the questions.

1. True or false? An organizational work environment needs to accommodate a growing demand for multiplicity of use. Real estate remodel plans should incorporate design features to support different activities at different times and create space that mixes open plan, meeting and quiet spaces.
☐ a. True
☐ b. False
2. During which organizational life-cycle stage would an organization tend to be mostly risk-averse in real estate decisions?
☐ a. Start-up
☐ b. Growth
☐ c. Maturity
☐ d. Revival
3. The future value of a US\$100 investment at an interest rate of 10 percent in year three is
☐ a. US\$100.00.
☐ b. US\$110.00.
☐ c. US\$121.00.
☐ d. US\$133.10.

Match each term with its application.

- | | |
|----------------------------------|---|
| 4. _____ Payback period | a. The amount in dollars today that an investment earns after yielding the desired rate of return for each period |
| 5. _____ Net present value | b. Estimates the discount rate that makes the present value of net cash inflows equal to the initial investment |
| 6. _____ Internal rate of return | c. The amount of time required for an investment to generate sufficient cash flows to recover the initial outlay |
| 7. _____ Sensitivity analysis | d. Measures the impact of simultaneous changes and reflects a range of outcomes |
| 8. _____ Scenario analysis | e. Shows the impact of changes in different variables one at a time |



9. True or false? Vacancy rates in a development that is starting to age would most likely remain unchanged.
- ☐ a. True
- ☐ b. False
10. Which highest and best use test would assess whether a 3,700 m² (40,000 ft²) single-story warehouse fits on a given site?
- ☐ a. Legally permissible
- ☐ b. Physically possible
- ☐ c. Financially feasible
- ☐ d. Most productive from a financial perspective
11. Which of the following standards would a facility manager **most likely** use when assigning floor area for occupant groups and setting up a chargeback for use of space?
- ☐ a. ASTM/IFMA standard
- ☐ b. Accessibility standard
- ☐ c. OSCRE standard
- ☐ d. Corporate-specific standard
12. What typically happens when a loan is amortized?
- ☐ a. Equity in a property decreases.
- ☐ b. The majority of early payments are for principal.
- ☐ c. The majority of early payments are for interest.
- ☐ d. Financing is easier to secure.



Progress check answers

1. a (p. 5-137)
2. c (p. 5-139)
3. d (p. 5-145)

Period	Beginning Value	Interest Earned	Future Value
1	US\$100.00	+ US\$10.00	US\$110.00
2	US\$110.00	+ US\$11.00	US\$121.00
3	US\$121.00	US\$12.10	US\$133.10

4. c (p. 5-148)
5. a (p. 5-148)
6. b (p. 5-149)
7. e (p. 5-150)
8. d (p. 5-150)
9. b (p. 5-153)
10. b (p. 5-156)
11. a (p. 5-162)
12. c (p. 5-166)



Chapter 2: Develop and Implement a Real Estate Master Plan

After completing this chapter, students will be able to:

- Explain the relationship of a real estate master plan to the entire organization's strategic plan.
 - Describe the components of a real estate master plan.
 - Recognize who should participate in the development of a real estate master plan.
 - Identify steps in the development of a real estate master plan.
-

✦ Topic 1: Strategic Alignment of a Master Plan

Take a moment and consider the following questions:

- How does a strategic facility plan support an organization's strategic plan?
- What distinguishes a master plan from a strategic facility plan?
- Is a campus plan part of a master plan or something else?
- How do FM tactical plans fit in the scheme of strategic facility plans and master plans?

How would you answer these questions? Chances are that your perceptions and the words you might use in your responses would vary from that of other FM colleagues and real estate professionals. The variances are understandable. As authors Kathy O. Roper, Jun Ha Kim and Sang-Hoon Lee note in the IFMA white paper "Strategic Facility Planning," facility managers, architects, consultants, builders and different organizations often define the terms (strategic plan, strategic facility plan, master plan, campus plan and tactical plan) differently.

Key terminology

Because the focus of this chapter is on a real estate master plan, it's important to have consensus about the various terms. Thus, we offer the following baseline definitions and distinctions.

Strategic plan

A strategic plan is an outline of the direction of an organization; it outlines broad, long-term, significant plans and the methods and actions by which the organization will operate. The goal of strategic planning is to develop strategic, business-driven plans and then turn the plans into action.



Strategic facility plan

A strategic facility plan is a long-term plan encompassing an entire portfolio of owned and/or leased space that sets strategic facility goals based on the organization's strategic objectives. In addition to real estate strategy, strategic facility plans encompass planned FM services; remote, mobile and on-site support and delivery methods; and plans to develop needed FM capabilities. The strategic facility goals, in turn, determine short-term tactical plans, including prioritization of and funding for annual facility-related projects.

Master plan

A master plan, as it relates to real estate, documents the entire organization's goals and the type of space required to support those goals. It traces the history of the entire organization, gives the reader an overview of how today's practices, goals and mission came about and describes where the entire organization is going and what kind of space (square footage, capabilities) will be needed in the future. Master plans may include projections on the need for community services (such as transportation, housing and communication), for power or utilities or to build, acquire or dispose of facilities.

A master plan directly impacts facilities and facility management because community services, construction, acquisitions and disposals require long lead times. Therefore, facility managers use master plans to guide their own long-range planning process. They use master plans to link the real estate plan with the strategic business plan.

Exhibit 5-67 on the next page presents a strategic planning overview model (which is discussed in detail in the *Leadership and Strategy* competency). It illustrates the various levels above and below strategic planning. We show it here to illustrate how strategic plans, strategic facility plans and facility master plans are interrelated.

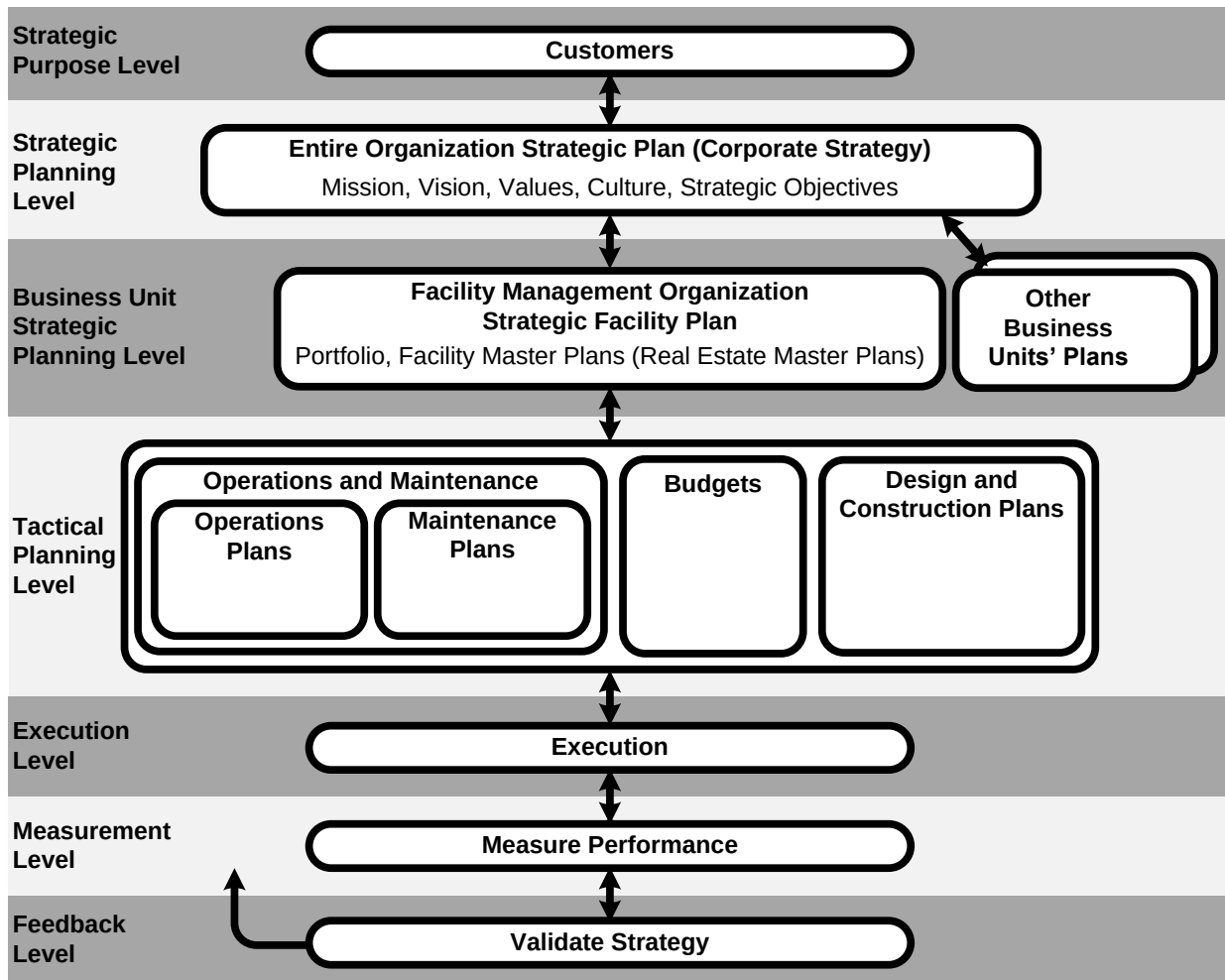
Strategic facility plan or master plan?

Confusion often exists between a strategic facility plan and a master plan since they both may consider the same question: What buildings and space are needed to support the organization's strategic goals?

Once the organization's business plan has been established and a clear understanding of assets and capabilities has been acquired, a strategic facility plan identifies which organizational strategies and business goals require a facility response. Gap analysis compares existing space and its condition to the needs of the organization. At its core are two essential questions: Where are we? and Where do we want to be? The strategic facility plan identifies the types of facilities needed, the best geographic location for the facilities, the expected costs and a timeline for bringing them consistently in line with the business plan goals.



Exhibit 5-67: Strategic Planning Overview Model



A facility master plan (also referred to as a real estate master plan or campus plan) is a detailed long- or mid-term set of specifications and schedule for implementing elements of a strategic facility plan. Facility master plans often contain scenarios, which are various site-specific options or recommendations proposed to enable business-driven decision making.

Facility master plan scenarios may include plans for:

- Existing and proposed real estate.
- Site systems and infrastructure.
- Building and grounds aesthetics.
- Building plan phases.
- Construction estimates.
- Value engineering assessments.



Tactical plan

The tactical planning level is where FM moves from general to specific plans. A tactical plan is a detailed set of steps needed to accomplish a goal in the strategic plan. Tactical plans are short-range plans, but timing is based on the particular goal. Tactical plans typically require separate approval and funding.

Some organizations do not use the term *tactical plans* and instead form annual facility plans, project plans, service plans, delivery plans, maintenance schedules, operational plans and/or approved budgets. The term *tactical plan* is intended as a general reference to any of these types of plans.

The key outputs of facility planning are the strategic facility plan, the master plan and the tactical plan. The three types of facility plans and some of their major components are listed in Exhibit 5-68.

Exhibit 5-68: Comparison of the Strategic Facility Plan, Master Plan and Tactical Plan

Strategic Facility Plan	Master Plan	Tactical Plan
- Existing condition analysis - Organizational needs statement (linking FM to strategy) - Gap analysis - Recommendations for new spaces/buildings - Facility cost projections/life-cycle cost analysis - Capacity analysis and use recommendations	- Site-specific physical plan for buildings - Infrastructure and systems within the site - Aesthetics of buildings and grounds - Phasing plans for building - Construction estimates - Engineering assessments	- Maintenance schedules/plans - Operational plans - Building floor plans/stacking plans - Architectural design/configurations - Operating budget - Floor plans or occupancy charts

Source: Kathy O. Roper, Jun Ha Kim and Sang-Hoon Lee. "Strategic Facility Planning: A White Paper on Strategic Facility Planning." Houston, Texas: International Facility Management Association (IFMA), 2009.

Synchronizing real estate planning and business planning

Facilities must not only support the mission of the organization that owns or leases them but should provide what has been described as the five Rs:

- The right amount of space
- At the right time
- For the right business groups
- At the right costs
- With the right workplace tools.

A real estate master plan is instrumental in fulfilling all these objectives.

There's a caveat here. By its very nature, planning is dynamic. Master plans must reflect operational plans and the realities of existing capacities and costs. Yet they



must also accommodate requirements for additional capital investment, real estate leases and other facility expenses. As facility managers know all too well, it takes time to bring real estate online. Facilities must be planned on a long-term basis, but they must also include contingencies to accommodate short-term deviations.

Organizations can change rapidly due to shifts in economic conditions, stakeholder needs, market conditions, organizational life cycle and rate of growth, profitability, technological advances or other forces. Strategic facility planning needs to be flexible and revisited at least once a year (if not more). A challenge in developing a real estate master plan is that strategies for physical environments also need to be open to changes and be able to reasonably adapt to unexpected possibilities. To that end, a master plan should be thought of as a living document. Similar to strategic facility planning, a master plan should be reviewed at least annually. Depending on the organizational specifics, the master plan may need to be reviewed more frequently. Whatever the review cycle, a master plan should be adjusted as often as necessary to support the organization's dynamic business conditions and changing facility needs. As master plans are reviewed or implemented, the content is subject to changes in all forms.

In *Facility Management*, authors Edmond P. Rondeau, Robert Kevin Brown and Paul D. Lapidès identify typical considerations when developing a master plan: acquisitions, expansions, curtailments, new products or programs, product phase-outs, divestitures, plant phase-outs, plant relocations and consolidations.

Facility condition assessment

When developing a master plan, due diligence may be a part of the master planning process. A facility condition assessment (FCA) is instrumental in providing a holistic view of facility conditions and providing information for a master plan. Known by many names (e.g., property condition assessment, facilities assessment, facilities survey, conditions survey, facilities audit or condition audit), condition assessments record a property's condition at the present moment and forecast the long-term capital that might be expected in order to maintain the property, correct any deficiencies and keep it in compliance.

A facility condition assessment involves a thorough field investigation and collects data to evaluate the condition of the following components:

- Architectural
- Structural
- Roof



- Civil
- Electrical
- Mechanical
- Plumbing
- Accessibility and building code compliance

A facility condition assessment is a valuable planning tool to determine the physical condition, functional performance and operating cost of a facility. It is an industry-accepted standard method for the comparison of building conditions.

Conducting FCAs on a regular and recurring basis is a key component of an effective maintenance and repair program for any facility. The information collected may be used to:

- Identify and budget for the repair, rehabilitation and replacement needs of a facility.
- Analyze life-cycle costs of facility components for long-range planning and budgeting purposes.
- Calculate the cost of facility upgrades.
- Develop an inventory of assets (including facility components, warranties and maintenance manuals).
- Calculate an FCA score to rate the overall condition of the facility.

A key component of the FCA is the calculation of a facility condition index (FCI). The FCI is an accepted benchmark used by facility managers worldwide to rate the overall condition of facilities. The index is based on hard numbers, not opinions.

The formula for the FCI calculation (often expressed as a percentage) and an example appear below. The example is based on a situation where:

- Cost of deficiencies = US\$325,000.
- Current replacement value = US\$12,300,000.

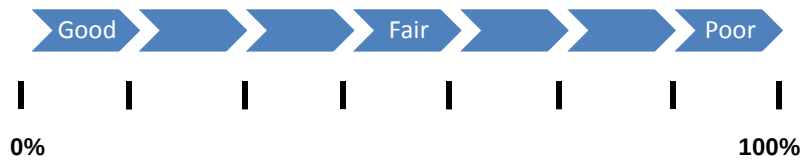
$$FCI = \frac{\text{Cost of deficiencies}}{\text{Current replacement value}} \times 100$$

$$FCI = \frac{\text{US\$325,000}}{\text{US\$12,300,000}} \times 100$$

$$FCI = 2.64\%$$



The FCI percentages may be rated against a scale such as the following:



In the example given, the FCI percentage (2.64 percent) would be rated as “good.”

Deficiencies may be categorized as building, programming or policy deficiencies.

- **Building deficiency.** A building deficiency is any flaw, defect or imperfection related to a building’s components or systems. Building components include the substructure, foundation, support structure, building envelope, building interiors, building services (mechanical, plumbing, electrical) and the grounds (paving and landscaping).

Examples:

Poor ventilation, overloaded electrical panels, inadequate or inefficient lighting, cracked or heaving sidewalks, chronic chiller failure, accessibility or component age (even though the component is currently performing satisfactorily)

- **Programming deficiency.** A programming deficiency means that the building and/or the grounds do not adequately or appropriately support the mission or needs of the occupants. Programming deficiencies revolve around the amount of space available or how the existing space is utilized.

Examples:

Lack of conference room space, insufficient space to house an expanded staff, not having enough real estate for parking or storage or having excess space in a building for the number of occupants

- **Policy deficiency.** A policy deficiency means that there are shortcomings or inadequate systems within the building needed to support organizational standards or practices.

Examples:

No emergency generator, an emergency generator that is too small to carry the entire load of the building or lack of an electronic security system

A fundamental issue in facility management is the proper planning and allocation of maintenance and repair dollars. Especially when a facility manager is



responsible for multiple properties, the FCI value calculated for each facility provides the baseline data to compare overall facility conditions.

The results of an FCA provide timely and qualitative data to support a master plan as well as the decision-making process and prioritization of the projects and/or facilities that need to be repaired. FCA data is typically compiled in a facility condition report (FCR). The report often includes photographs and diagrams outlining problem areas, needed updates or improvements and problems. The FCR provides valuable information for real estate financial decisions.

Organizational decisions to acquire or dispose of real estate or facilities are capital investments. A master plan provides a concise view of all real estate decisions that need to be made and gives senior management more time to make those decisions. It allows for scenario planning and ranking the greatest real estate needs when faced with a limited budget. Well conceived and designed, a master plan facilitates informed real estate decisions.

A real estate master plan provides a visionary road map. It may not show every definitive detail or be able to address all business and market unknowns, but it can help to mitigate the potential of costly mistakes inherent in the long-term nature of real estate capital investments. A good real estate master plan is good business. Subsequent chapter topics take a closer look at the real estate master plan: components of a master plan, participants in the process and steps in the planning process.

*** Topic 2: Components of a Master Plan**

No two real estate master plans are the same. The documents are, of course, different because every organization's real estate and facility needs are unique. Master plans can also vary dramatically in length and level of detail. By comparison, at one end of the spectrum, a privately held service organization with office space needs for only 30 employees would have a small and simple master plan as compared with the real estate master plan for a large multinational corporation with thousands of employees occupying multiple campuses and facilities worldwide.

A real estate master plan complements an organization's strategic plan and implements elements of the strategic facility plan. Often, the format of the real estate master plan mirrors the format of one or both of those strategic plans. In most situations, a real estate master plan is a confidential (or "classified") document.



Master plan sections

When developing a master plan, it is advisable to prepare an outline first and secure executive management approval before drafting the actual plan. Regardless of the format followed in a real estate master plan, the document contents should be easy to read and allow reviewers of the document to locate information quickly. Organizational style standards should be followed.

Next we consider the master plan sections shown in Exhibit 5-69. These are sections typically found in most real estate master plans. A brief overview of each section follows the exhibit. As you review the information, keep in mind that the nomenclature may differ across organizations and a real estate master plan for your organization will—in all likelihood—include variations or different sections.

Exhibit 5-69: Typical Sections in a Real Estate Master Plan



Executive summary

The executive summary should provide a high-level overview of the real estate master plan. It must be concise, clear and compelling; it should draw senior or executive management into the body of the master plan. Realistically, the executive summary may be the only part of the master plan that organizational management reads.

The sources of data (such as enterprise resource planning software or an integrated work management system) used to develop the master plan should be mentioned in the executive summary. Introducing the data sources here adds credibility and sets the stage to include data in appropriate places



throughout the document. (The actual data should be made available in the appendix section.)

Methodology and contributors

This section should review how the plan was created and the methodology used. Assumptions should be noted. A list of contributors and a signature area that shows participation and buy-in from the major stakeholders in the plan should be included.

Statements of core organizational standards

This section should focus on the core business elements of the organization and its culture. Information should provide more detail about the stakeholders' voices and expand the organizational mission statement.

The statement of core standards should discuss:

- **Financial profitability.** The expected rate of return on any investment in an asset should be explained. A list of other financial requirements and the cost of capital to be used in any financial decision making should be included.
- **Price and service to customers.** This is a position statement that identifies the organization's approach to the market. For example, is the organization a low-cost, no-frills provider of services or a high-cost, value-added provider?
- **Customer attraction and retention.** What type of real estate and facility is expected to attract and retain customers? For example, is the requirement a Class A building with certain amenities or will a Class B building be adequate?
- **Employee satisfaction.** In any organization, attracting and retaining employees is critical to fulfilling the organizational mission and strategies. This section describes the level of service and benefits that the organization intends to provide to employees in terms of facilities (e.g., dining, child-care services, fitness facilities, outdoor trails and so forth).
- **Environmental stance and sustainability focus.** If the organization has a sustainability policy and/or report, it is appropriate to reference them and note how the master plan is aligned with them. Even if the organization lacks formal sustainability documentation, facility management's sustainability efforts should be highlighted.



**Functionality,
design and space
usage**

This section portrays senior management's desires and organizational culture with regard to levels of functionality, design and space usage:

- Functionality deals with operational performance and efficiency.
- Design focuses on what particular "look" is desired.
- Space usage describes what allocation should be given to what type of employee.

Furniture and other décor standards are also included within this section.

**Life safety and
regulatory
compliance**

The purpose of this section is to describe life safety and environmental regulations and to establish standards that will be applied to the portfolio of properties. This section should also be part of the organization's strategic plan under risk management.

The section may include assessments for disability access, code compliance, environmental and regulatory matters and air quality. It may also include risk analyses for catastrophic events such as floods, wind, tornados, hurricanes, civil unrest, and other noncontrolled events. Some assessments expand to include traffic and other accident statistics.

**Objectives and
timeline**

The objectives and timeline identify what property is affected, when changes need to occur and what the potential cost or savings would be. This schedule is generally formatted by immediate needs, year 1, year 3 and year 5 plus any longer-term objectives.

The real estate master control file is the best method for managing the specifics of each property. There are many software programs dedicated to real estate control and tracking. Or a custom real estate control master control file can be created using a database program. Whatever the case, the data used to establish the objectives and timeline comes from the real estate control file database. Every detail of every property that is in the real estate portfolio should be found in this real estate control file.

There should be a specific real estate control file for each property listed in the real estate portfolio that identifies specific objectives with time lines for years 1, 3 and 5 and any longer-term objectives. Financial analysis and needed funding and other resources should be identified to meet objectives. These needs can be ranked in some identifiable order. All real estate control files will be rolled together into the creation of the real estate master plan.



For real estate master planning purposes, every real estate control file should clearly identify time, cost or savings, income and quality:

- **Time**—what changes need to be completed by when (identifying when the change must get started so that it can be completed by the time identified)
- **Cost or savings and income**—what resources will be needed to complete the change
- **Quality**—the requirements that should be met in completing the change

Potential risks

This section identifies potential risks and uncertainties that may or may not happen but should be monitored carefully. For example, risks of deferral (deferred maintenance and deferred replacement) might be mentioned.

Scenario analysis data is useful here. This information serves as an early warning system and can help manage risks, uncertainties and unplanned changes should they occur.

Relevant contingency plans should be noted. At a minimum, situations that would trigger facility management to consider an alternate plan need to be described.

Real estate profitability

Profit opportunities are identified in this section. Historically, facility management has been viewed as a cost center. This part of the real estate master plan should identify specific plans and opportunities to make revenue and savings contributions.

Support services

As part of the real estate master plan, the effect and impact of meeting objectives on support services (such as mail services, shipping and receiving, security, food services and janitorial services) must be clearly identified, planned and communicated.

Value and business effectiveness

The real estate master plan should clearly identify how the value of real estate is optimized and business effectiveness is increased. The work environment should support employee recruitment and retention, employee productivity and creativity, positive employee morale and job satisfaction. Real estate should promote the health and welfare of employees, including safety, emergency procedures, thermal comfort, air quality, proper acoustics, ergonomics and lighting. It should also lessen the impact of psychosocial factors, cumulative trauma disorder, space politics and overall stress. Real estate should also support the organizational image presented to customers and external stakeholders.



External factors

This section should clearly identify how potential external factors may affect the real estate master plan. This can be done on a general basis or for each specific objective.

The following external factors may be included in the master plan:

- Changes in macro-economic conditions (global and regional)
- Changes in micro-economic conditions (regional and community)
- Changes in neighborhoods
- Opportunities that affect employment or business automation.

Updates and revisions

As noted in the earlier discussion of real estate planning and business planning, a master plan should be a living document and typically be updated once a year. A section on updates and revisions should outline how FM intends to support organizational changes and agility strategies.

The annual update process is the norm in most large organizations and is often tied to business process reviews. Quarterly reviews are recommended, with provisions made for more frequent updates and revisions as significant changes occur (e.g., an environmental issue or economic shift). If the organization uses the balanced scorecard (BSC) as a strategic performance management tool, master plan updates and revisions may be tied to BSC data. (Note: More information about the annual update/revision process is provided in Topic 4, “Activities in the Master Planning Process.”)

Appendix

The appendix should include any lengthy documents or other details that are not appropriate to include in the main document. As cited previously, the appendix is where sources of data should be included.

It must be stated here again that the overall look and variations of a real estate master plan are endless. For example, master plans may also include items such as (but not limited to):

- Supporting graphics, photos, maps, figures and tables.
- Sustainable design and development considerations.
- Project-specific site planning maps with enhanced details.
- Project-specific enhanced environmental documentation.
- Discussion of municipal services.
- Utilities assessment (narrative and graphics).
- Transportation assessment (narrative and graphics).
- Discussion of signage and iconography.
- Explanation of abbreviations and terms.



✦ Topic 3: Participants in the Master Planning Process

A real estate master plan should not be developed in a vacuum; the process must be inclusive of all parties—internal and external—impacted by the organization’s real estate. Whether an organization has a sprawling collection of real estate or a modest occupancy in a single facility, stakeholders should be part of the master planning process.

Who are stakeholders in master planning?

A stakeholder can be generally described as anyone who has a vested interest in the value of the master plan. Stakeholders include individuals or groups who will define, constrain, influence or decide on the real estate options as well as all those affected through implementation of the recommendations and those occupying the real estate and using or receiving the supportive services.

It is common to include organizational executives and strategic planning participants in real estate master planning, but there are many other stakeholders who should have input. A list of recommended stakeholders is shown in Exhibit 5-70. Based on your situation, some of these stakeholders may not apply, or there may be others you need to consider that are not listed here.

Exhibit 5-70: Real Estate Master Planning Stakeholders

- | | |
|---|---|
| • Business owners | • Suppliers |
| • Board members | • Contractors |
| • Organizational executives | • Stockholders |
| • Senior management | • Regulatory agencies |
| • Functional department heads (e.g., finance, accounting, facility management, technology, security, human resources) | • Cities and municipalities |
| • Facility management staff | • Ministries |
| • Organizational employees | • Local agencies |
| • Occupants | • Community representatives |
| • Unions | • Financial institutions and other financial partners |
| • Work councils | • Consulting firms (e.g., legal, payroll) |
| • Service providers | • Tenant associations |
| | • Visitors |

Why involve stakeholders in master planning?

In some situations, there may be a mandatory requirement for public consultation with stakeholders. Whether mandated or not, there are several important reasons for identifying and involving stakeholders in the real estate master planning process.



Stakeholder involvement can:

- Identify a shared vision.
- Assist with identification of feasible options.
- Define requirements, constraints and risks.
- Identify and develop collaborative approaches.
- Help to formulate creative solutions.
- Provide information and education.
- Test acceptability of recommendations and solutions.

Stakeholder involvement can have a beneficial influence on the planning process. Because stakeholders can influence outcomes and generate or impose constraints, involving them and documenting benefits and risks can ultimately assist in gaining stakeholder support and buy-in for the master plan.

Segmenting master planning stakeholders

Stakeholder involvement is important, but not all stakeholders are equal in their importance to all portions of the plan. Some individuals or groups will have greater power or control than others. Consideration should be given to those who are the key, primary and secondary stakeholders.

Situation specifics will determine exactly which stakeholders fit into each of the three categories. We offer general parameters here:

- **Key stakeholders.** Typically, business owners, board members, organizational executives, customers and regulators are key (critical) stakeholders.
- **Primary stakeholders.** Primary stakeholders are those individuals or groups who are closely linked with a particular aspect or phase of the master plan or asset life cycle. As such, primary stakeholders may change over time. During investment allocation and budgeting, for example, business owners, the board, executives and financial institutions and partners would be primary; regulators would be primary when addressing project constraints and standards.
- **Secondary stakeholders.** Secondary stakeholders are generally individuals and interest groups with indirect connections to the matter being addressed. During design and new construction, for example, a legal consultant or visitors are secondary stakeholders.

Your situation not only influences the list of stakeholders but also how you segment them. In practice, there may be considerable overlap between



stakeholders depending on the master planning issues under consideration or the phase of the master plan or asset life cycle.

How to involve master planning stakeholders

A facility manager will need to plan and manage for varying stakeholder involvement and interaction. The scope of the real estate master plan and other organizational specifics will dictate how to best engage stakeholders. However, involvement and interactions are generally based on considerations such as those shown in Exhibit 5-71. Items listed here are presented in alphabetical order and do not imply order of importance. Different requirements will surface at different times during the real estate master planning process. Many of the needs shown below will surface more than once during the development of the master plan.

Exhibit 5-71: Engagement of Real Estate Master Planning Stakeholders

Stakeholder involvement may be required for:

- | | |
|------------------|------------------------|
| • Authorization. | • Information sharing. |
| • Compliance. | • Joint planning. |
| • Consultation. | • Negotiation. |
| • Cooperation. | • Participation. |
| • Education. | • Partnership. |
| • Empowerment. | • Persuasion. |
| • Feedback. | • Team building. |
| • Influence. | |

To achieve effective and efficient stakeholder involvement, a facility manager needs to ensure that:

- Stakeholders are committed to participation.
- Reliable information is available to stakeholders in a form they can understand.
- Sufficient time is allowed to participate, to establish rapport and build trust, to learn, to negotiate, to resolve any disputes and to create solutions.

Stakeholders should be provided with the appropriate level of information corresponding to their involvement or decision-making responsibility.

When to involve master planning stakeholders

The idiomatic expression “early and often” applies here. Appropriate stakeholders should be involved either at the onset or early on in real estate master planning. Stakeholder involvement should continue throughout all phases of the planning process.



Some stakeholders may be important from the onset through the final phases. The need to solicit the input of others will vary at different points in the process. Your need for stakeholder involvement and interaction (as noted in Exhibit 5-71) combined with stakeholder requirements (discussed next) should guide the timing.

Identifying and analyzing stakeholder requirements

Identifying and analyzing stakeholder requirements (e.g., interests, needs, expectations and concerns) are an important part of the real estate master planning process. The task can be challenging, as stakeholder requirements are as diverse as the individuals and stakeholder groups are. Consider the following stakeholder requirements.

Example: Facility management staff as stakeholders

Facilities personnel want a facility that is easy to clean and maintain, is safe and meets regulatory requirements, and allows employees, customers and others to accomplish their work in pleasant surroundings. FM staff are interested primarily in operations and maintenance and providing a safe, secure, healthy and productive environment.

Example: Occupants as stakeholders

Occupants often have high expectations for their work environment. If an organization meets or exceeds these expectations, customer satisfaction is typically improved. Organizations with high customer satisfaction share the following attributes:

- Safe—The workplace is safe.
- Pleasant—The work surroundings are pleasant and conducive to a productive work atmosphere.
- Commute—The commute to work is reasonable and stress-free.
- Parking—Parking is adequate.
- Convenience—Occupants can shop and run errands during lunch or breaks.
- Exterior—The exterior environment is restful and attractive.

Example: Regulatory agencies as stakeholders

Regulatory agencies enforce laws and ensure that life safety is maintained. Their main interests are code and environmental requirements along with employee and public safety and environmental protection.

Example: Cities and municipalities as stakeholders

Cities and municipalities spend time deciding how they want their community to develop in the future. They will have their own vision of how future development, transportation and redevelopment should take place. Their main interest is image and tax income.

Example: Financial institutions and other financial partners as stakeholders

Financial institutions and other partners from which the organization may borrow money are very interested in the future real estate plans. Their main interest is the profitability of the financial institution and low risk.



The final topic in this chapter looks at the various steps in real estate master planning. The process is highly interactive. Without a strong foundation of stakeholder involvement, the planning process and the master plan can fall short and miss the mark. Conversely, if stakeholders are involved and their needs are identified and analyzed, the process will be more robust. The likelihood that the real estate master plan will support the FM long-range planning process and the organization's strategic business plan is greatly increased.

* Topic 4: Activities in the Master Planning Process

The real estate master planning process usually follows after an organization's annual strategic planning process is complete. As noted in previous content, important objectives in preparing the real estate master plan are to:

- Ensure alignment with the organizational strategic plan.
- Provide detailed long- or mid-term specifications and a schedule for implementing elements of the strategic facility plan.
- Include scenarios (as appropriate) to enable business-driven decision making.
- Facilitate modifications in response to changes that impact the organization.
- Engage stakeholders in a collaborative process.

Organizational specifics shape the master plan, so any attempt to describe a planning process must include a disclaimer that activities described are not universal; there is no prescriptive real estate master planning process or list of steps that will work for every organization. Given that caveat, we offer a list of master planning activities in Exhibit 5-72 on the next page that are relatively common in many real estate master planning scenarios.

The activities and attributes of the real estate master planning process are as varied as the organizations developing the plans. To best fulfill the objectives noted at the beginning of this topic, the process should be participative and continuous.

The master planning process does not start from scratch after every annual organizational strategic meeting unless a master plan does not exist or there has been some significant event (such as a merger, a buyout, a major accident or a change in key leadership). Once a master plan is in place, it is more typical that only updates and revisions are made in subsequent years.



Exhibit 5-72: Activities in Real Estate Master Planning

- **Validate existing records.** Review the real estate control file database. Ensure that records accurately document what the organization currently has, such as owned or leased, size, type and age of existing property and facilities, possible use of vacant space, expiration date and option date for leased properties, monthly lease and operating expenses. If important records do not exist, create new ones.
- **Review the strategic plan for the entire organization and the strategic facility plan.** Identify how the two plans will drive the real estate master plan in terms of general geographic locations where a site or space is required and what kind of space is required.
- **Identify and enlist stakeholders to participate in the real estate master planning process.** Secure commitment from executive management and other stakeholders to participate in the real estate master planning process.
- **Secure executive approval for the proposed format of the real estate master plan.** Submit the general organization and format of the real estate master plan (for example, a high-level outline of the sections) to executive management for their review and approval.
- **Meet with stakeholders.** Meet with stakeholders to better understand their requirements, gather feedback about real estate services and solicit input into the master plan through either one-on-one meetings, virtual meetings, focus groups, written surveys or other methods.
- **Conduct due diligence.** Perform necessary due diligence studies, highest and best use studies, and financial analyses that will contribute to the value of the plan.
- **Prepare a draft and solicit feedback.** Prepare a draft of the plan and have key stakeholders review it. Actively solicit their input and changes. Try to set the stage for approval.
- **Finalize the plan and secure buy-in from organizational executives.** Incorporate feedback and finalize the real estate master plan. Present the plan to executive management for final approval and discuss the plan's implementation.
- **Implement the plan.** Plan implementation includes careful consideration and planning of time, cost and quality. It will require resources such as labor, money, space or equipment. An implementation timeline should be established and communicated. Required resources must be correctly identified and budgeted.
- **Monitor implementation.** Record and evaluate the implementation of the plan and specific activities involved. Compare and report differences between the actual plan and the implementation of the plan.
- **Revisit assumptions.** As required, revisit plan assumptions such as return on investment, cash flow, work processes and employee productivity.
- **Maintain data.** Verify that all records and databases have been updated and prepare for the next planning cycle.



Annual updates and revisions really begin with the last three activities discussed in Exhibit 5-72 (monitoring master plan implementation, revisiting assumptions and maintaining data). The organization's strategic plan and the strategic facility plan should be reviewed to assess any changes that need to be carried forward in the master plan. It is also advisable to meet with internal stakeholders to verify information learned from any strategic planning activities. Following these steps, updates and revisions can be drafted for leadership review, assumptions can be validated and the master plan can be formally changed.

Ideally, a real estate master plan provides an economically viable and achievable road map for the organization without negatively impacting opportunities for future development. Costly mistakes are mitigated. The ability to plan and react to changing facility needs is accommodated.



Progress Check Questions

Directions: Read each question and respond in the space provided. Answers and page references follow the questions.

Match each type of plan with its characteristic.

1. _____ Strategic plan
 2. _____ Strategic facility plan
 3. _____ Master plan
 4. _____ Tactical plan
- a. Describes aesthetics of buildings and grounds
 - b. Uses gap analysis to compare existing space to organizational needs
 - c. Provides broad, long-term significant organizational plans, including the methods and actions
 - d. Includes floor plans or occupancy charts
5. Which of the following statements **best** describes a facility condition assessment?
- () a. Description of steps necessary to move from a current state to a desired future state
- () b. Report of the current state of a building, including costs to correct deficiencies
- () c. Two- to five-year facility plan encompassing owned and/or leased space
- () d. Process to determine the cost of a building over its lifetime in present value terms
6. True or false? A real estate master plan should specify space configurations for office employees and plant personnel.
- () a. True
- () b. False
7. Name two reasons why it is important to involve stakeholders in the real estate master planning process.
- _____
- _____
- _____
- _____
8. True or false? During the real estate master planning process, visitors to a building would **most likely** be considered primary stakeholders.
- () a. True
- () b. False



9. When identifying stakeholder requirements during real estate master planning, stockholders would be **most** interested in
- () a. influence.
 - () b. employee retention.
 - () c. day-to-day functionality.
 - () d. financial profitability.
10. How can a real estate master plan help an organization survive dramatic shifts in the economic environment?



Progress check answers

1. c (p. 5-171)
2. b (p. 5-172)
3. a (p. 5-174)
4. d (p. 5-174)
5. b (p. 5-175)
6. a (p. 5-181)
7. Specific answers will vary. Key reasons to involve stakeholders in master planning are to identify a shared vision; assist with identification of feasible options; define requirements, constraints and risks; identify and develop collaborative approaches; help to formulate creative solutions; provide information and education; and test acceptability of recommendations and solutions. (p. 5-185)
8. b (p. 5-185)
9. d (p. 5-187)
10. Specific answers will vary. Generally speaking, a real estate master plan can help the organization to:
 - React quickly.
 - Save time, money and resources.
 - Make informed decisions (and avoid costly mistakes). (p. 5-190)



Chapter 3: Manage Real Estate Assets

After completing this chapter, students will be able to:

- Identify basic elements of site and space management.
 - Determine and evaluate real estate space requirements.
 - Differentiate space forecasting, space programming and space planning.
 - Recognize commonly used standards and benchmarks for space measurement.
-

* Topic 1: Site and Space Management

What is site and space management?

As the name implies, site and space management has two components.

- **Site** refers to the real property and related rights, the structures and beyond. Site encompasses parking lots, grounds, open nature areas and more.
- **Space** describes an enclosed area. Space may be a building, a floor or any defined area in a building interior.

Facility managers are expected to manage an organization's real estate holdings—both site and space. As you well know, many factors make the task difficult. Mergers, acquisitions, restructuring, expansions or reductions, budgetary constraints and/or changes in organizational strategies all influence site and space management.

Although much of this chapter focuses on space and interior building environments, you should keep in mind that space boundaries are not necessarily confined to a facility. While site and space are two distinct entities, they are inextricably linked.

The importance of space management

An overarching goal in space management is to make effective use of an organization's space. Space management aligns user needs to space based on an organization's business plan and culture. The space management process strives to optimize existing space tied to organizational standards, cost efficiencies and allocations.

Financial considerations are a key driver in space management, but the provision of a functional work environment also takes into consideration corporate image



and branding, individual tasks and preferences, mobility, flexibility, agility, location, transportation convenience, technology requirements and more.

Traditionally, space and space management have been thought of in the context of an office environment where individual or group status, rank and job titles were key drivers in space allocation. Office environments in today's competitive climate have changed. New types of work coupled with the fact that people work in a variety of ways and from different locations are now impacting how office space is allocated.

Furthermore, offices are only one type of workplace environment. Space management includes industrial districts, retail environments, educational institutions and other types of facilities. Workplaces must be congruent with specific organizational requirements, accommodate a multigenerational and diverse workforce and also reflect appropriate global standards.

Tactical and bottom-line aspects

As with many other facets of facility management, space management has both tactical and bottom-line aspects. An organization can reasonably expect the following tactical and bottom-line outcomes from an effective and efficient space management process.

Tactical:

- Maximizes flexibility to meet ongoing facility needs and changes
- Affects employee working conditions and productivity
- Reduces the need to acquire or procure additional space

Bottom-line:

- Controls expenses and provides measureable financial benefits to an organization
- Increases the market value of real estate

The better the space is used, the more positive the impact on the organizational bottom line, enabling the organization to improve productivity and manage costs. Simply put: Space management is the number-one driver for building performance and a primary determinant in organizational profitability.

Space management is a fundamental responsibility for a facility manager. It is also a challenging area because space is expensive to buy or lease, can be costly to maintain and typically takes time to change or dispose of. Layered on top of these challenges is the fact that space (whether owned or leased) can quickly go from being well-utilized to ineffective and inefficient.



Managing space as an asset

In traditional financial accounting parlance, an asset is thought of as any economic resource that has value to an owner. Assets may include investments, accounts receivables and inventories in addition to physical plant investments. Asset management in financial accounting encompasses many performance measures to assess an organization's financial health and business success.

In the text *Facility Design and Management Handbook*, a chapter authored by Bill Tracy addresses asset management from the standpoint of a facility manager. Tracy's discussion deals more with asset management in a management accounting context and makes the following points about FM assets:

- FM assets are a subset on the corporate balance sheet and are physical in nature (rather than purely financial or legal).

Key point:

FM balance sheet assets such as buildings and improvements or fixtures and equipment are usually classified as noncurrent assets and are not readily liquid.

- They include numerous noncapitalized assets (such as leased space and office equipment) as well as operating assets, which depreciate over time, require regular maintenance and repair to maintain functionality and can wear out over time.

Key point:

Leasing reduces the need for capital and keeps assets off the organization's balance sheet since they are technically not owned. However, managing such assets can be more demanding since they have to be accounted for and returned at the end of the lease period.

- They are used and deployed in space throughout various parts of an organization.

Key point:

Most financial assets reside in accounts. By contrast, FM assets reside in physical locations.

A facility manager's control over disposition of assets is typically constrained; he or she may have input but typically does not have control over real estate disposition (e.g., purchase, lease or sell) of assets managed. Nonetheless, space and FM assets can be managed. Return on investment for FM assets is often in the form of expense recovery and improved operating efficiency and increased productivity of occupants (which, as Tracy notes, is difficult to quantify and measure). Yet the work environment and productivity are concerns for a facility manager.



Effective space management can:

- Improve the life and performance of facilities and furniture, fixtures and equipment (FF&E).
- Increase the productivity of staff who work in a facility.
- Minimize the operating and ownership costs of facilities and FF&E.
- Provide valuable information (historical and current data and future estimates) that can be used in organizational and facility strategic plans.

Physical resources are valuable organizational assets. Managed well, they help an organization fulfill strategies, goals and objectives.

(Note: The *Finance and Business* competency discusses management accounting, a facility manager's use of management accounting information and organizational financial statements in more detail.)

Next we look at various factors a facility manager should consider when identifying space requirements—factors that help to maximize asset value, control costs, promote flexibility and support organizational efforts to achieve results.

The identification of space requirements

It has been said that physical dimensions of a facility (the space) are the context within which a facility manager executes his or her responsibilities. Effective space management (as is the case in many other management areas) is grounded in forecasting and planning. Following forecasting and planning, there is also a review and feedback loop.

In FM, space forecasting and planning are generally characterized in the following manner.

Forecasting:

- Relates to predictions based on data assessment and analysis
- Involves identifying new space requirements and projecting the need for reallocation, disposal of unneeded space or the re-purposing of space

Planning:

- Pertains to meeting forecasted needs
- Encompasses expansion or contraction in an industry or field, the organization and/or the workforce

The complexity of expansion and contraction issues and the fact that they may (and often do) occur in tandem necessitate effective forecasting. Forecasting bridges planning and programming (which is discussed later in this topic).



Space forecasting and planning should fulfill organizational requirements. The challenge is to achieve the best match of functional space supply with ever-changing business demands and budgetary constraints. Eliciting review and feedback from stakeholders helps to secure their buy-in and ensure that decisions concerning the use of space are aligned to the functional work environment and also meet budget restrictions.

Space management due diligence

A facility manager must consider many factors when forecasting and planning space requirements. Due diligence involves consideration of items such as those shown in Exhibit 5-73 on the next page.

Items as they are listed are not intended to imply level of importance or a prescriptive sequence. And not every factor listed in Exhibit 5-73 applies in every space forecasting, planning and programming scenario. Organizational and situational specifics will determine the ones a facility manager needs to focus on. For example, perspectives of space utilization are generally markedly different between corporations, government agencies, educational institutions, health-care institutions and so forth. Whether space is leased or owned and the timing of needs with market conditions are other examples of drivers that will influence FM due diligence.

Some of these factors are beyond a facility manager's control, but they should still be part of the FM due diligence process that precedes space forecasting, programming and planning.

Space forecasting

An organization's space strategy frames how it will handle space needs. The two basic strategies are to own or to lease. Owning space provides maximum control; leasing provides maximum flexibility. Whether an organization chooses one over the other depends on the organization's culture and how to best support the achievement of organizational objectives. In many cases, organizations may have a mix of owned and leased properties. (The buy versus lease decision is discussed in more detail in Chapter 4, "Acquisition and Divestiture of Real Estate.")

An organization's own or lease strategy sets the stage for forecasting activities. Best practice has proven that space forecasting is generally most effective when it is an output of the organizational strategic plan and the strategic facility plan.

Example:

An organizational strategy includes projections for expansion in some regions and contraction in others. The strategic facility plan identifies the changing facility needs. Ideally, space forecasts derived from the organizational strategic plan and strategic facility plan are made with sufficient time to implement lease or buy decisions in line with the space strategy.



Exhibit 5-73: Space Management Due Diligence

Item	Examples of FM Due Diligence Considerations
Organizational space management policy and procedures	✓ Where decision making and acquisition and approval authority resides ✓ Organizational culture and norms ✓ Organizational image
Current space	✓ Space guidelines for optimal use ✓ Space standards ✓ Space allocation/space utilization
Future space projections (short- and long-term)	✓ Plans for re-purposing ✓ Plans for expansion or contraction
Highest and best use analysis	✓ Evaluation of effective use of space (which often requires the help and analysis of external parties such as architects and consultants)
Occupant profiles	✓ Numbers ✓ Demographics ✓ Types (e.g., service, design, production and so forth)
Employee efficiency considerations	✓ Activities that take place and in which areas ✓ Adjacency planning and requirements to enhance workflow and productivity ✓ Adjacencies and ties to customers ✓ Ergonomics
Alternative workplace strategies	✓ Evaluation of telecommuting, hotelling, workstation sharing and like approaches that can support employee productivity ✓ Assessment of potential cost reductions, operational impacts and benefits
Technology used in operations	✓ Review of facility technologies and whether they meet current and future organizational needs
Churn rate	✓ How often people move ✓ How often space is reconfigured
Land and building costs	✓ Occupancy costs • Square meters/feet per person • Gross revenue per total square meters/feet • Occupancy cost per employee • Net useable space compared with total space available • Occupancy cost per square meter/foot • Total occupancy cost compared with revenue ✓ Operations and maintenance costs ✓ Energy utilization and management ✓ Renovation and construction costs ✓ Environmental impact
Timing with real estate climate	✓ Leasing activity ✓ Availability rates ✓ Taking rent index—the initial taking rent (initial base rent less all concessions and tenant electric) as a percentage of asking rent ✓ Swing space availability
Legal considerations	✓ Real estate legislation and regulations ✓ Environmental compliance ✓ Workplace environment regulations ✓ Safety legislation ✓ Tenancy contracts ✓ Discretion and confidentiality regarding how much can be discussed with brokers



In reality, there are situations where the organizational strategic plan and/or the strategic facility plan do not adequately identify changing facility needs. There may be an unexpected event that triggers an abrupt change in space needs. Or the strategic planning processes may not be sufficiently robust. Should these situations arise, space forecasting may have to be done using data collected from a survey.

(Note: The *Quality* competency discusses survey development and other research techniques in detail.)

When a facility manager devises space forecasts (whether the result of the strategic plans or survey data), simple macro-level forecasts are often reached using standard space allocations (such as square meters/feet per person) multiplied by the number of occupants. Naturally, the more the facility manager knows about the occupants, the better. A facility manager can use job titles, job functions or best practices in conjunction with organizational standards in forecasting needs. Generally speaking, applying standards can greatly expedite forecasting. We will review a few specific measurement standards at the end of this topic.

Analytical techniques based upon agreed-upon standards are valuable, but there also should be consideration of other factors in space forecasting. Some common sense (and business intuition) should apply as well. A classic example of flawed forecasting is to develop a space forecast for a suburban location when other mitigating circumstances make an urban setting the only realistic location (or vice versa). Similarly, it would not be time well spent to develop a forecast for an area where property costs far exceed the organization's financial risk tolerance.

The distinctions between the need for growth and flexibility are additional subtleties in space forecasting.

- Growth implies a need for additional space.
- Flexibility implies that the space supports multiple activities (without compromising the productivity of any specific activity).

A facility manager must take into account whether the space need is in response to growth or flexibility or a combination of the two.

Organizational space management policies and procedures regarding swing space and growth space should also be considered during space forecasting.



Swing space is space available to temporarily house functions/departments/units during renovation, alterations and realignments. An organization may have a policy allocating a percentage for swing space. In turn, the availability and cost of swing space can vary based on local real estate market conditions. Growth space is space adjacent to or near an existing function/department/unit to allow for its planned growth. A facility manager should be aware of any policies and procedures governing both types of space when preparing space forecasts.

There are other complexities and considerations in space forecasting. It is not possible to cover all of them here. Your situation will determine the drivers for your space forecasting. Suffice it say that there is no room for a crystal ball in space forecasting.

Space programming

Space programming determines user needs for the amount and configuration/features of physical space based on user role or business unit/department needs. The *Facility Management Handbook* notes that in smaller organizations, space programming is typically done at a project level. In larger organizations, space programming generally involves a series of steps such as those listed in Exhibit 5-74.

Exhibit 5-74: Space Programming Considerations

Step	Implications for FM
Goal setting	- Answers what is to be accomplished and frames the space programming process - Helps to ensure that the goal (or goals) is accurate and matches user needs
Data gathering	- Leads to concrete requirements - Answers questions such as: - What is needed? - When is it needed? - What are the expansion or contraction requirements? - What individuals, groups and functions must be accommodated? - What is the desired image and marketplace perception? - When will the space be available? - What will be the cost of the space? - When is occupancy available?
Needs identification	- Answers how an organization wants to operate at a given location - Considers cost constraints and quality of space required - Addresses how much space is required, the location and time frame



In *The Facility Manager's Field Guide*, authors Cornel Rosario and Mark Sekula discuss the qualitative and quantitative aspects of space programming:

- Qualitative identifies what kind of space is needed (the functional aspects).
- Quantitative determines the amount in square meters/feet.

Examples:

An organization requires an open, collaborative work environment.

Qualitative space programming identifies a space plan with an open floor plate with different kind of spaces to allow employees to meet and perform various tasks throughout the day.

Quantitative space programming identifies the areas and rooms and respective net square meters/feet. Applying a grossing factor determines gross square meters/feet required.

(Note: The *Project Management* competency includes additional information on space programming.)

When presenting a space program, a general caution for a facility manager is to be sure that there are adequate FM resources available to turn programmed space into useable space. Without sufficient FM resources, the ability to effectively manage additional space could be jeopardized. (Note: The *Human Factors* competency examines aspects of FM staff recruitment, retention, motivation and productivity.)

The end result of space programming outlines:

- Defined space requirements.
- Available resources.
- Costs associated with the space.
- Time to obtain the space.
- The quality of the space.

Space programming converts space forecasts into specific requirements.

Topic 2 in Chapter 4, "Purchase versus Lease Decision," includes content about cost allocations for chargebacks.

Space planning

Space planning transforms the written space program into a graphic floor plan. Broadly categorized, space planning addresses the basic considerations shown in Exhibit 5-75.



Exhibit 5-75: Space Planning Considerations

	Implications for FM
How much space is needed	• Considers how much space is available and the time frame for availability • Determines if existing space suffices
Type of space needed	• Considers the type of existing space available • Identifies the alterations, construction and renovations necessary for existing space • Determines if extensive demolition and new construction are required
Configuration of space	• Determines (without launching into a design process) if certain spaces are more appropriate for specific users or business unit/department needs • Considers how to best accommodate the location of different activities for connectivity and maximum productivity
Utilization of space	• Examines how effectively and efficiently a specific activity may be accomplished in a given space • Employs a variety of methods ranging from qualitative interviews of users to computer analysis of measures of frequency and intensity of usage • Measures how much space exists and of what type, how the space is currently being used, how effectively it is being used and how utilization compares with that of other organizations
Space-related costs	• Considers rent and operational costs • Establishes energy and technology requirements and associated costs • Determines costs associated with support services and amenities

Tools for space planning

Facility managers need to know the process and key components for space planning. They need to understand what an interior designer or architect is telling them so they can communicate the information back to the organization and also contribute to the process using their cultural knowledge of the organization.

A facility manager should have a rudimentary understanding of the following space planning tools.

- **Adjacency diagram.** An adjacency diagram documents critical physical proximities of organizational groups, equipment or support functions. Adjacency diagrams are used to analyze “closeness” of the groups, equipment and individuals.
- **Bubble diagram.** A bubble diagram is a type of adjacency diagram that illustrates primary and secondary adjacencies between major work groups



or departments. Bubble diagrams are very simple drawings that consist of roughly drawn bubbles (representing spaces) connected by solid lines, broken lines or wavy lines to specify the type of relationship between the spaces.

- **One-to-one assignment diagram.** A one-to-one assignment diagram places individual activities (or people) into individual spaces.
- **Block diagram or blocking plan.** A block diagram illustrates how multiple groups or departments will fit onto a given floor of a building. Block diagrams are preliminary floor plans that begin to define horizontal arrangements within the building.
- **Stack plan or stack diagram.** A stack plan is a vertical section drawn through a building showing which organizational groups occupy which floors. The vertical relationships between work groups in a multi-story building are shown. Primary circulation patterns are also established.

Collectively, the space planning tools described here are rough layouts for approval before proceeding to design and construction documents. An understanding of these tools provides value-added skills and enables a facility manager to communicate on a more strategic level and support an organization's agility.

Standards and benchmarks for space measurement

Recall that Chapter 1 noted that many standards shape organization real estate decisions. Within that context, there are numerous standards and benchmarks that specifically deal with space measurement. To name but a few, there are industry standards such as health-care institution standards, industrial standards and government agency standards. Organizations often set their own space standards.

Sources of space standards and benchmarks that a facility manager often encounters include the following.

- **IFMA work with ASTM.** ASTM E1836/E1836M-09e1, "Standard Practice for Building Floor Area Measurements for Facility Management"
- **IFMA.** IFMA "Space and Project Management Benchmarks Research: Report #28," which outlines the trends in space planning and utilization, and IFMA "European Benchmarks: Report #2"
- **IFMA work with BOMA.** "A Unified Approach for Measuring Office Space for Use in Facility and Property Management"



- **BOMA**

- “Office Buildings: Standard Methods of Measurement” (ANSI/BOMA Z65.1–2010)
- “Standard Method of Measuring Floor Area in Office Buildings” (BOMA Z65.1–1996)
- “Gross Areas of a Building: Standard Methods of Measurement” (ANSI/BOMA Z65.3–2009)
- “Industrial Buildings: Standard Methods of Measurement” (ANSI/BOMA Z65.2–2009)
- “Multi-Unit Residential Buildings: Standard Methods of Measurement” (ANSI/BOMA Z65.4–2010)
- “Retail Buildings: Standard Methods of Measurement E-Book” (ANSI/BOMA Z65.5–2010)
- “Mixed Use Properties: Standard Methods of Measurement 2011”
- “A Unified Approach for Measuring Office Space for Use in Facility and Property Management”

(See www.boma.org/measurementstandards/pages/default.aspx.)

Certainly, there are more. There is not room here to mention them all. The ones listed here are but a small sample.

Every standard has unique advantages and disadvantages. In general, however, the goals of space standards are to:

- Promote uniformity in leased space measurements.
- Ensure that new construction is planned realistically, efficiently, carefully and conservatively.
- Promote optimum use and conservation of space in existing and renovated buildings.
- Increase sustainability.
- Reduce/minimize initial costs.
- Reduce costs of future remodeling.
- Increase flexibility and agility to adapt to organizational needs.
- Contribute to employee productivity.
- Provide a measure of equity.
- Improve the quality and effectiveness of the work environment.
- Establish uniformity in common space apportionment, utility cost allocation and so forth.
- Facilitate uniformity in internal chargebacks.



The challenge for a facility manager is to understand how to implement space standards in daily operations. Every facility manager must (with executive suite approval) be clear about which standard the organization will follow. Additionally, some space standards are regulated by law, so a facility manager needs to ensure that organizational space standards are in compliance.

Did You Know?

Organizational culture and history can supersede industrial standards. For example, in some countries, general managers may have significant power and influence to decide how an office is set up and space is allocated for certain job positions.

In certain parts of Asia (especially Hong Kong and China), feng shui, the ancient Chinese practice to achieve harmony with the environment, is still actively practiced and observed in facilities.



Progress Check Questions

Directions: Read each question and respond in the space provided. Answers and page references follow the questions.

1. Which of the following would be a characteristic of space planning?
☐ a. Control of owned space
☐ b. Disposal of expensive space
☐ c. Reallocation of unneeded space
☐ d. Provision to accommodate growth
2. True or false? Workplace trends such as telecommuting and hotelling should be considered as part of space management due diligence.
☐ a. True
☐ b. False
3. Space programming helps to determine
☐ a. whether existing space suffices.
☐ b. what kind of space is needed.
☐ c. who owns the space in a facility.
☐ d. how to address swing space.

Match each space planning tool with its use.

- | | |
|--|---|
| 4. _____ Adjacency diagram | a. Illustrates the vertical relationship between work groups in a multi-story building |
| 5. _____ Bubble diagram | b. Shows critical physical proximities of organizational groups, equipment or support functions |
| 6. _____ One-to-one assignment diagram | c. Provides preliminary floor plans of a given floor in a building |
| 7. _____ Block diagram | d. Illustrates primary and secondary adjacencies between major work groups or departments |
| 8. _____ Stack plan | e. Places individual activities (or people) into individual spaces |



Progress check answers

1. d (p. 5-197)
2. a (p. 5-199)
3. b (p. 5-201)
4. b (p. 5-203)
5. d (p. 5-203)
6. e (p. 5-204)
7. c (p. 5-204)
8. a (p. 5-204)



Chapter 4: Acquisition and Divestiture of Real Estate

After completing this chapter, students will be able to:

- Support organizational initiatives to acquire and divest real estate through due diligence.
 - Compare and contrast aspects of purchasing versus leasing in a real estate portfolio.
 - Describe methods of administering service charge allocations.
 - Support organizational initiatives to acquire and divest real estate.
 - Manage/oversee the real estate portfolio.
-

Facilities support the ability of an organization to fulfill organizational strategies and create value for stakeholders. Once a facility manager understands requirements for space, furnishings and equipment, those requirements are translated into a space and design program that becomes the basis for real estate.

The acquisition and divestiture of real estate (land and buildings) can dramatically affect the financial stability of an organization. Third parties and/or an organization's board of directors, the executive management team and finance function are the key principals in real estate transactions. Depending on the organization, a facility manager generally participates in acquisition and divestiture of property to varying degrees. Whatever the specific level of involvement and responsibility a facility manager has, he or she must work to ensure that the best interests of the organization are being met.

To accomplish this, a facility manager must understand the process, players and language of real estate acquisitions and divestitures. Chapter 1 covered basic investment analyses involved in real estate. This chapter reviews the facility management aspects of real estate acquisition and divestiture related to:

- Due diligence and site selection.
- The purchase versus lease decision.
- Leasing.
- Exit strategies.
- Property divestiture.
- Portfolio management.



✦ Topic 1: Due Diligence

As it pertains to real estate and site selection, due diligence refers to the inspection and investigation of a property and the surrounding area before an organization makes the final decision whether to commit to the site and move forward with a purchase or lease transaction.

Exhibit 5-76 on the following pages provides an extensive checklist that can assist a facility manager in real estate due diligence. Not all of the due diligence items will apply to every purchase or lease situation. While the list of items is long, there may be other FM due diligence items unique to given situations that are not included here.

The intent of the checklist is to give the due diligence process some structure and avoid omitting important things when analyzing a contemplated transaction.

Keep in mind that real estate due diligence has other dimensions beyond those shown in Exhibit 5-76. For example, there are extensive legal aspects of real estate due diligence, but those responsibilities require expert legal counsel and are beyond what a facility manager would handle. A facility manager's due diligence in conjunction with real estate attorneys, colleagues (e.g., finance, technology, human resources and marketing) as well as engineers and other professionals helps to ensure a robust investigation before any commitment is made.

The due diligence items in Exhibit 5-76 are grouped in the following categories:

- Needs profile (employee and customer needs, organizational and financial investor requirements)
- Market assessment (economic conditions)
- Real estate detail analysis (finance and value; environmental factors; land details; code compliance and physical condition; title, deed and other ownership documents; entitlements; approvals)

These categories are merely a convention for sorting the various items in logical groups. They do not imply a prescriptive set of steps or order of importance. Some of the due diligence items have qualifying explanations; others are self-explanatory.

Depending on your circumstances, you might extract some of the due diligence items and create a short list of basic criteria that a potential site must meet. When you use a longer, more detailed list for due diligence, you might prioritize items in terms of importance.



Exhibit 5-76: Facility Management Real Estate Due Diligence (continued on next page)

Needs profile	
Employee and customer needs	Property characteristics that will support employee productivity, creativity and professional growth and increase customer business effectiveness, including such items as (but not limited to) the following • Image • Ambience • Aesthetics • Safe and secure location • Easy and convenient access • Employee commute study • Reasonable area traffic • Public transportation access • Parking • Open space • Facility amenities • Recreational opportunities • Close to shopping and services • Access to food and dining • Cultural activities • Proximity to colleges and universities • Local weather and climate • Excellent facility customer support and service • State-of-the-art technology • Functional design • Floor plate layout/column spacing • Expansion capabilities • Adaptable to sustainable operations • Level of property management provided by the landlord and how it is requested
Organizational and financial investor requirements	Conditions that support business goals and objectives, including such items as (but not limited to) the following • Access for employees and customers • Access to transportation (trucking, rail, air) • Acreage of land • Pleasing and inspiring architecture • Sustainability • Utility usage and energy efficiency • Budget—monthly/annual debt service • Business plan profit/loss alignment • Buy versus lease options • Total cost of ownership • Capitalization rate • Area taxes • Tax incentives and concessions • Unemployment and workers' compensation premiums • Proximity to special economic zones • Reporting tools (such as enterprise resource planning software or an integrated work management system)
Market assessment	
Economic conditions	Economic conditions that will optimize the value of the real estate, including such items as (but not limited to) the following • Age of development—area growth or decline • Market conditions—supply and demand cycle and vacancy rates • Diversity of the economic base • Price-distance relationship • Population demographics • Education level • Income levels • Workforce availability • Employment rates • Population migration and growth statistics • Local leadership • Traffic patterns and routes • Area crime statistics



Exhibit 5-76: Facility Management Real Estate Due Diligence (continued on next page)

Real estate detail analysis	
Finance and value	Basic investment analysis that will facilitate the comparison of alternative real estate profiles, including such items as (but not limited to) the following • Financial analysis—payback, net present value, internal rate of return • Latest appraisal • Current leases and contracts—copies of all leases, licenses and contracts that affect the property • Historic operation costs—such as taxes, insurance and utilities • Current financing in place—term, rate and amount • Property selling or lease price • Value of surrounding real estate • Value of comparable properties in the neighborhood and community • Risk analysis
Environmental factors	Environmental regulations that may affect the property, including items such as (but not limited to) the following • Phase I Environmental Assessment—environmental condition and environmental history of a particular property, focusing on the possible presence of hazardous materials • Phase II Environmental Report—done, if necessary, as follow-up to Phase I report; involves physical inspections and testing of property, such as core samples, groundwater testing and specific issues of concern identified in Phase I report • Asbestos survey and report • Underground storage tanks and above-ground storage tanks located on the property • Lead paint • Mold levels that could adversely affect health or habitability • Environmental operating permits—whether the existing use of the property requires any environmental operating permits or triggers any reporting obligations related to air or water quality • Wetlands • Shorelines and watersheds • Flood zones • Endangered species • Seismic safety zones • Water rights • Oil, gas, mineral and timber rights • Aviation restrictions—restrictions within certain distance of airport • Noise restrictions (Note: The <i>Environmental Stewardship and Sustainability</i> competency provides additional information about Phase I Environmental Assessments and Phase II Environmental Reports.)
Land details	Land details of the property to be acquired, including items such as (but not limited to) the following • General topography • Legal address—metes, bounds • Southern exposure, northern shade • Pictures—still, video and aerial • Property location • Street address • Water source • Sewer • Comprehensive survey results—details of existing, as-built state of the property, which locates the parcel boundaries, existing improvements, adjacent infrastructure and recorded and apparent unrecorded easements and interests • Secondary water/irrigation • Business continuity considerations



Exhibit 5-76: Facility Management Real Estate Due Diligence (concluded)

Real estate detail analysis, continued	
Code compliance and physical condition	The specific physical condition of the property to be acquired, including items such as (but not limited to) the following • Code compliance—confirmation that the existing use of the property complies with applicable zoning, building and life safety codes • Condition assessment—rigorous inspection of the property (e.g., heating ventilation, air conditioning, electrical, fiber optics, plumbing, roofing and building façade), existing conditions and the condition of earlier improvements and identification of any potential problem areas such as deferred maintenance and necessary repairs • Accessibility • Site improvements and drainage • Roads—confirmation of adequate access from public streets, whether new or additional access is required and whether there are planned road improvements that may affect the property • Railroads • Circulation/parking/loading—determination whether the property has sufficient parking for the intended use and sufficient truck loading facilities as may be required • Utility systems—overhead and underground • Natural gas supply • Wells—water, oil, gas or monitoring wells located on the property
Title, deed and other ownership documents	Conditions of the title to be transferred at closing as well as potential title problems, including items such as (but not limited to) the following • Title insurance commitment or preliminary title report—documentation of the current state of title for the property, including the precise legal description of the property • Easements, REAs and CC&Rs—documentation of any easements; reciprocal easement agreements (REAs); covenants, conditions and restrictions (CC&Rs); or similar encumbrances that may affect use of the property • Taxes and assessments—determination of what real property taxes and assessments will apply to the property after closing, including any special assessments
Entitlements and approvals	Determination in advance of which land use entitlements and approvals will be necessary if intended use includes developing the property, changing the use of the property or making other significant changes, including items such as (but not limited to) the following • Subdivision/platting • Historic or open space preservation • Required approvals and permits—use permits, variances, encroachments, occupancy permits, business or operation-related permits or license and signage permits



Exhibit 5-76 provides a long but important list. A bit facetiously, a real estate professional described the function of due diligence as verify, verify, verify. There are numerous factors to consider, but the outcome of due diligence is invaluable. Real estate due diligence provides the level of information and knowledge that gives a clear picture of a property's financial and physical condition. This information enables an organization to make real estate site selection and investing decisions in an informed manner. If the decision is to move forward with the property, the stage is set for the purchase or lease decision.

✦ Topic 2: Purchase versus Lease Decision

Even with thorough due diligence, the purchase versus lease decision is complex. One might think of it as merely comparing the net present value of the cash outflows associated with the buy option with those of the lease option, but there are other considerations—questions to be answered, comparisons and analysis—that go into the decision.

In this discussion, we examine purchase or lease options, the advantages of purchasing or leasing and the purchase versus lease analysis. Collectively, the content provides a basic understanding and prepares a facility manager to make a purchase versus lease decision. However, even tenured facility managers with real estate experience would say that a purchase versus lease decision is an area that necessitates additional expertise and support along the way.

Purchase or lease options

An organization has a need for space. The purchase or lease choices may be broadly categorized in the following manner.

Purchase options

<i>Option</i>	<i>Outcome</i>
Purchase of real estate for organization to own	Provides control of real estate, site improvements and related facilities
Purchase of real estate with development partner	Shares capital investment with partner

A purchase option may result in a:

- Purchase of existing space and a remodel.
- Purchase of land and building, demolition and new building construction.
- Purchase of land and new building construction.



Lease options

<i>Option</i>	<i>Outcome</i>
Lease with no capital funds for upfit (remodel or tenant finish)	Results in higher rental but allows organization to forgo cash investment or tying up its capital
Lease to obtain lowest possible rent	Requires organization to provide some or all of upfit funds to minimize rent
Lease for short term (less than three years)	Results in higher rental but fulfills organizational need for short-term occupancy
Lease for long term	Fulfills organizational need to use real estate for specific purpose over lease term
Lease with purchase option	Allows organization to defer capital purchase to some future date for specified price
Ground lease	Long-term lease (10 to 25 years or longer) of land only; allows organization to own capital improvements made to property and amortize capital investments over term
Build to suit	Organization desires not to own property but pays property owner rent to cover investment and then leases property (usually five to 15 years or more)

Sale-leaseback option

A sale-leaseback (or sale and leaseback) combines features of real estate ownership and leasing. The property owner sells the property to an investor and simultaneously leases the property back for long-term use, typically for a 20- or 30-year term.

The potential outcome of a sale-leaseback is that it maximizes the value of the organization's real estate assets by reducing occupancy costs while allowing the organization to maintain long-term control. A sale-leaseback deal also frees up capital for the organization and provides potential tax advantages while allowing them to dictate what they receive in terms of the facility.

Advantages of purchasing or leasing

Ownership and leasing each has potential advantages.

Common advantages of purchasing

- **Purchasing provides more flexibility.** An organization may have high standards and/or a desire to convey a unique image. Leasing a property limits remodel and reconfiguration options; many things are restricted. In contrast, with ownership, alterations and expansions (within codes and regulations) can usually be accomplished more quickly than with leased properties.



- **Property can appreciate in value and may provide a buffer during times of inflation.**

Example:

For the purposes of this example, consider a scenario where real estate experiences a five percent annual appreciation rate.

An organization buys or builds a building valued at US\$1,000,000. The bank requires a 20 percent down payment, or US\$200,000, with a mortgage of US\$800,000 to be paid over the next 20 years. Even though the organization only invested US\$200,000, it enjoys the appreciation of the entire US\$1,000,000. At a five percent annual appreciation rate, the value of the property grows to US\$1,050,000 in year one, US\$1,102,500 in year two and US\$1,157,625 in year three ($US\$1,000,000 \times 1.05 \times 1.05 \times 1.05$).

- **Owned property life-cycle costs are generally less than leasing.** Leases expire; owned property does not. Property has a disposal value at the end of its use, which can provide a source of future financing. Annual depreciation costs can be written off.

Common advantages of leasing

- **Leasing preserves capital.** Small or start-up organizations have a chance to establish themselves without much capital outlay (usually the first and last month's rent and a security deposit). Debt is kept off the organization's financial statements. In many countries, lease payments are tax-deductible as an operating expense.
- **Leasing offers agility.** An organization may have a need to enter a market quickly without a long-term commitment. Short-term leasing supports trial market entry and allows an organization to mitigate the risk of paying over market. Leasing can also fulfill a need for swing space.
- **Leasing provides entry into state-of-the art facilities.** Depending on the market and the economy, there is a good selection of lease properties and space configurations to choose from. There is less risk of obsolescence.
- **Leasing provides the ability to negotiate terms.** If an organization grows or shrinks over time, larger or smaller spaces can be negotiated when the lease is renewed. Facility-related items can be negotiated (such as reserving parking spaces for employees and visitors and having utilities metered separately for the space). A right of first refusal on adjacent space that becomes available or the right to sublease space in the event of a workforce reduction can also be negotiated.



Purchase versus lease analysis

As we have seen, extensive qualitative and quantitative analysis and due diligence underpin a purchase versus lease decision. In the end, there is often a connection of several factors that lead to the decision: the type of organization, the nature of its business, employees, service and product requirements, financial incentives, regulations, location requirements plus more. Consider the not-so-fictional example of a multinational organization's decision to lease properties based on a need to be adjacent to free trade zones.

Example:

A free trade zone, also known as a foreign trade zone or export processing zone, offers the organization access to an area where some normal trade barriers such as tariffs and quotas are eliminated and bureaucratic requirements are lowered. Goods may be landed, handled, manufactured or reconfigured, and reexported without the intervention of the customs authorities. (Only when the goods are moved to consumers outside the zone do they become subject to the prevailing customs duties.) The organization looks for sites in free trade zones around major seaports, international airports and national frontiers and currently leases properties in Hong Kong, Singapore, Colón (in Panama), Stockholm, Gdańsk (in Poland), New York City, and Los Angeles.

This is, of course, one singular example. Based on other unique requirements, many organizations have a mixture of leases and purchases in their real estate portfolio. Often, an organization's ability to raise capital funds is the most influential factor.

A facility manager should provide input into the decision process with qualitative analysis of subjective factors and valid financial and business-related information along with recommendations and a rationale for purchase or lease. Examples of such input include:

- A spreadsheet site evaluation matrix providing an objective ranking of weighted site evaluation criteria.
- A relocation analysis comparing multiple sites on the basis of annual rent, purchase option price, lot size, operating expense, escalations, free rent, total rent and expenses by year and over the term.
- A purchase versus lease "what if" analysis evaluating known and unknown factors in some combination. Known factors include starting rent, beginning operating expenses, purchase price, capital outlay for purchase, mortgage terms, current tax rates (income, property and capital gains), current depreciation schedules and early termination options; unknown factors include future yield on alternative investments, future value of currencies, tax law changes, other regulatory changes, increases in operating expenses, tax increases and rent increases based on inflation.



In the end, a purchase decision is typically based on the:

- Cost of alternative decisions.
- Organization's relative cash and tax positions.
- Organization's preferred owned/lease property ratio.
- Anticipated term of use.
- Asset risk management factors.
- Need for flexibility.

Acquiring real estate or space through leasing is optimal when the:

- Organization (lessee) cannot take advantage of tax credits and the property owner/landlord (lessor) can.
- Lessee needs to minimize cash outflow.
- Lessee needs to use cash for other purposes.
- Lessor is highly developed and has a lower cost of capital than a highly leveraged lessee.
- Lessor realizes a good return on the lease yield and the lessee has more profitable opportunities for funds than purchasing property.
- Probability of the asset appreciating in value in the economic market is low.
- Demand for the asset is decreasing.
- Lessor is unwilling to sell due to personal reasons or the asset cannot be sold due to legal restrictions.
- Asset appraisal requires testing or experience before data is available for economic evaluation.

Such financial considerations in conjunction with legal consequences are usually the basis for the purchase or lease decision. Realistically, there are times when personal or political preferences overrule the rational analyses.

Sometimes, specific factors about a location in another country force a decision one way or the other:

- Restrictions on real estate purchases
- Availability and supply of natural resources
- Terrorism risks
- Liability issues

The take-away here for a facility manager regarding a purchase versus lease decision is that he or she must understand the organization's decision-making process from start to finish. As feasible, a facility manager should work to influence a sound business approach. Informed real estate decisions are the best way to help to ensure that the organizational requirements are met.



Visit the IFMA Facility Management Learning System online Resource Center for an example of a lease cost-benefit analysis (CBA).

Service charge allocations

Service charges enable facility management to recover costs incurred in the operational management of a property from tenants. A service charge arrangement is established in the tenant's lease. Tenants pay for the upkeep of the common areas according to terms of their lease. The service charge may also cover insurance of buildings, grounds and common systems and property taxes.

Various terms are used to refer to systems for service charge costing: transfer pricing, activity-based budgeting, cost accounting, cost allocation, cost assignment, service chargebacks, second lease and more. The methods for administering service charge costs are nearly as varied as the names.

Two widely used methods involve including costs in a tenant's base rent or implementing a cost model.

- **Base rent method.** An allocated cost for common facility services and space is included in the base rent. The amount is calculated using gross square meters/feet occupied. Services that exceed the base package are charged at actual cost plus a markup for overhead.
- **Cost model.** In this method, a facility department develops a detailed model for all space and services. There are different methods to allocate the cost of space (for example, by square meters/feet, by head count, by workstation and so forth). Each allocation method has its own advantages or disadvantages. Users requesting services are charged according to the impact on facility costs.

In *Managing Facilities and Real Estate*, Michel Theriault describes another approach called facility cost allocation (FCA) and makes the following points about the model:

- Charging users for space and services is a tool but should not drive the model.
- The ultimate goal of any facility cost allocation model should be the efficient and effective use of real estate resources.
- In addition to a costing component, there is a management component and both are required to effectively influence behavior.



In FCA, the costing component is what facilitates accurate and effective cost calculations to own and/or operate a facility on a unit basis (such as move costs per workstation). The management component is what provides FM with the influence to drive effective behavior. Compared to the cost component, the management component is much more challenging to develop and administer. To merely charge departments and other users for the space they occupy or the services they use can result in behaviors that are not in the entire organization's best interests.

Implementing any service charge costing system is challenging. The system must be:

- **Equitable.** A system must be fair to all departments or users. For example, one tenant should not be subsidizing the cost of another.
- **Accurate.** Proper systems must be in place to capture costs.
- **Transparent.** A tenant must understand the chargeback process and methodology. The tenant must know what is being charged and how.
- **Predictable.** The tenant must have the ability to predict or control the costs. Overages that result in additional costs must be understood. Conversely, any opportunity to reduce costs must be clear.
- **Economical.** The system itself must be relatively inexpensive to administer, including data collection, processing, reporting and invoicing.

A service charge is not about profit or loss. It should offset FM costs incurred in connection with the maintenance and repair of common areas and other items or services according to terms of tenant leases. It should also serve as a management tool. If the intent is clearly communicated and the practices are uniform, fair and transparent, there is less likelihood of conflict with tenants.

(Note: For more information about chargebacks, refer to the *Finance and Business* competency.)

* Topic 3: Leasing

Leasing a facility is a major undertaking. This topic takes a closer look at various aspects of leasing that a facility manager should understand in order to help ensure that a leased property supports a customer's and/or organization's requirements.

Types of leases

There are many types of commercial leases. The major types a facility manager encounters are described in Exhibit 5-77. In the exhibit, the terms "landlord" and "tenant" are used. These two terms are synonymous with "lessor" and "lessee," respectively.



Exhibit 5-77: Major Types of Commercial Leases

Type	Characteristics
Gross lease (full service lease)	- Landlord pays all the usual operating costs associated with owning and maintaining the rented space. - All costs are included in the base rent figure stated in the lease. - Tenant pays only base rent, no additional rent. - Landlord may cover utilities, water and sewer, repairs, insurance and/or taxes.
Modified gross lease (modified lease)	- Landlord and tenant both pay some mix of operating costs. - Most common tenant responsibilities are electricity, maintenance and janitorial services. - Usually requires separate metering for tenants' electrical usage.
Net lease (single net lease or N)	- Tenant pays for their space and must also pay some or all of the usual operating costs associated with operations and maintenance and use of the property. - Expenses passed through to the tenant may include utilities, janitorial services, property management fees, sewer, water and trash collection. - Specific meaning of a net lease varies from market to market, so each lease agreement must be analyzed carefully to determine which expenses are paid by whom. - Tends to favor the landlord, so negotiated caps (the maximum amount a landlord can increase fees each year) are advisable.
Double net lease (net net lease or NN)	- Tenant pays property taxes, repairs, site maintenance, building upgrades, routine maintenance and all operating expenses. - Excludes insurance. - Insurance is paid on top of the tenant's regular monthly rent.
Triple net lease (net net net lease or NNN)	- Tenant pays property taxes, insurance, repairs, site maintenance, building upgrades, routine maintenance and all operating expenses. - Additions are paid on top of the tenant's regular monthly rent.
Revenue-based lease (percentage lease)	- Landlord receives some percentage of the tenant's monthly sales above a predetermined breakpoint (sometimes called overage rent). - Percentage is paid in addition to base rent. - Commonly executed in retail mall outlets and other commercial retail leases.
Index lease	- Tenant's base rent changes over the term of the lease. - Amounts to be paid are calculated using an established index (e.g., the consumer price index). - Increases in the index generate a corresponding increase in the lease payment.
Step lease	- Tenant's base rent changes over the term of the lease by prespecified amounts. - Amounts to be paid are fully determined and known with certainty at the time the lease is signed.
Green lease	- Integrates sustainability elements into lease negotiations (such as building design, energy and water efficiencies, equipment, appliances, waste minimization and other sustainability objectives). - Structured in such a way that both parties receive incentives for sustainable choices. (Note: Green leases are discussed in more detail in the <i>Environmental Stewardship and Sustainability</i> competency.)



Types of leases and lease costs vary greatly by location and the landlord-tenant relationship. There may be combinations of lease types (for example, revenue-based and index). And, in leasing, a simple adage holds true: *Everything is negotiable*.

A local real estate broker and/or property owner can provide information about types of leases and lease costs in an area. Real estate associations and government agencies offer data, market trends and other relevant information.

In many countries, some of the lease terms and conditions are regulated. Commercial properties, for example, may be subject to rent control. Brokers may be entitled to a commission base with a minimum charge. Due diligence is a necessity to understand the regulatory environment.

Did You Know?

In China, a commercial lease is relatively simple.

- The tenant pays a base rent (usually charged by money/meters²/month plus a property management fee that covers all property maintenance and operations (utilities, HVAC, lighting, cleaning, security, green plants and so forth for public areas).
- The only additional cost the tenant needs to bear is overtime air conditioning usage, which is charged per hour.
- For air conditioning, 26° Centigrade (78.8° Fahrenheit) is the mandated temperature.

Basic components in lease agreements

Lease agreements may be relatively short or very long. Typical leases are lengthy and replete with legalese. They are, however, critical contractual documents.

It is important to carefully read the initial lease agreement to ensure that your needs, wants and agreements are represented and that you identify areas that you do not agree with or do not understand. All real estate contracts, including leases, must be in writing. Verbal contracts may not stand up in court. Be especially aware of referenced statutes and waiver provisions. Always have your organizational counsel review the lease agreement, especially in these areas, as well as the overall lease agreement.

There is no universal lease agreement for commercial real estate transactions and no particular order in which articles in an agreement appear. In general,



leases cover items that both parties want. They also cover items that a landlord or a tenant may not want. Most lease agreements are written to the benefit of the entity that writes the lease.

Brief descriptions and discussions of several main areas and terms included in commercial leases follow. As you review these items, keep in mind these points:

- Lease terminology may vary regionally and across countries, so be sure to verify the precise meaning of all terms and conditions when a lease is being negotiated.
- Other items (not discussed here) unique to your business and location may be necessary inclusions in a given lease.
- Additional items may be required by regulations or your organization's legal counsel.

For ease of reference, items are present in alphabetical order. While the information provided here reflects U.S. practices, many characteristics apply globally. A working knowledge of these commercial lease items helps in negotiating lease contracts and avoiding legal issues during lease execution.

Bankruptcy

The escalating number of corporate bankruptcy filings in recent years has impacted the real estate market as much as any other sector of the global economy. Bankruptcy can create tremendous financial exposure for both landlords and tenants, depending on which party is insolvent.

Bankruptcy laws and the protections offered vary regionally and globally. While we cannot cover the gamut here, it is imperative for both landlords and tenants to have some familiarity with issues that are likely to arise when one of the parties seeks protection under a bankruptcy code. An understanding of the applicable key issues allows the parties to protect their interests and limit costs and expenses.

Code compliance

A lease clause typically called “Compliance” or “Compliance with Laws” describes various aspects of code compliance. The clause typically specifies landlord expectations for a tenant to keep the building “up to code” as well as tenant expectation of the landlord to do the same.

Common area maintenance

Common area maintenance (CAM) describes costs for areas in a building that are not directly leased but that are a common responsibility, such as hallways, restrooms, stairways and walkways. It may also include grounds, “hardscape” (paved areas) and other site maintenance.



How common area maintenance is paid depends on the type of lease. Most landlords add CAM charges to square meters/footage costs to calculate lease payments.

Demised property “Demised property” is a term used in leasing to describe the conveyance of an interest in real property to someone for a number of years. The landlord typically seeks a reasonable degree of control over the property while the tenant typically wants few restraints.

Floor area measurements Floor area generally refers to the amount of area (measured as square meters or square feet) taken up by a building or part of it. There are different ways to describe floor area, depending on what factors of the building should or should not be included (such as external walls, internal walls, corridors, lift shafts, stairs and so forth).

- **Useable area.** Useable area is the portion of a building or floor available for occupants.
- **Gross leasable area.** Gross leasable area is the total floor area of a building designed for a tenant’s use.
- **Rentable area.** Rentable area represents the facility gross area minus exterior walls, major vertical penetrations and interior parking space. Rentable area is the basis of the lease payment.
- **Assignable area.** Assignable area refers to the portion of a floor or building used to house personnel, furniture and equipment.

Assignable area = Usable area – Secondary circulation

- **Secondary circulation.** Secondary circulation is the portion of a building required for access to some subdivision of space (whether bound by walls or not) that is not defined as primary circulation.
- **Primary circulation.** Primary circulation is the portion of the building that is a public corridor or lobby or is required for access by all occupants on a floor to stairs, elevators, toilet rooms or building entrances.



Improvements and alterations

If the space is to be customized to tenant needs, the lease should address the improvements to be made. The lease should specify the agreement between the landlord and the tenant regarding who does the design, who does the work, when it gets done and who pays for it.

Regarding alterations, the lease may specify a landlord's right to review and approve tenant alterations without a commitment to extra costs. Landlords usually maintain responsibility for structural alterations, and tenants are not allowed to alter entrances, stairways, dimensions and other building features.

When making improvements and alterations, issues about design, aesthetics, and what is "appropriate" can be complex; they are also subject to negotiation. In addition to deciding what is allowed and what is not, the other consideration is who pays for any changes and how those changes impact rent.

Leases often dictate that the space must be restored to the original condition unless negotiated to remain as amended.

Insurance

Several kinds of insurance are available to cover the risks of leasing commercial space. In an insurance clause, a landlord may require a tenant to carry basic forms of insurance such as property and liability insurance. A tenant may want to negotiate for rental interruption insurance (coverage to protect against business disruption from a natural disaster) and leasehold insurance (coverage to protect against lease cancellation for reasons beyond the tenant's control).

Lease abstract

A lease abstract is a summary of key information in a commercial real estate lease. It summarizes and documents commonly referenced lease information from a lease and lease modifications. It serves as a road map of the lease and allows a lease administrator, leasing agent or property or facility manager to review frequently referenced lease information without having to take time perusing a lease (or potentially all amendments or other modifications) to find needed information.

Lease abstracts also aggregate critical lease information (such as expiration and option notice dates), to help in managing a portfolio of leases. This is particularly helpful when dealing with a variety of lease formats and tenants.

The key to a valuable lease abstract is to balance the KISS principle (**keep it short and simple**) with the appropriate level of detail. Commercial leases are often full of long paragraphs written in legal language; abstracts cut through all



of that language and condense the lease to its important information. They should be artfully written and allow the landlord or tenant to understand the basic lease provisions without having to refer to the actual lease document. A lease abstract should provide a summary of the selected lease information and direct the reader where to obtain further information.

Lease audit rights

Most leases require a tenant to pay for a share of building operating expenses, common area maintenance charges, real estate taxes, utilities and other costs. The lease provisions that impose these obligations are often complex and necessitate that the landlord bill them correctly and the tenant monitor the charges.

Lease audit rights grant tenants the right to review the books and records of the landlord to ensure that the charges billed are correct. A lease audit is a systematic process that allows a tenant (or legal counsel) to examine all documents associated with a lease, invoices and other correspondence from the landlord and data from other sources to determine whether charges assessed by the landlord under a tenant's lease have been proper.

A lease audit is also commonly referred to as:

- A rent audit.
- A CAM audit.
- An escalation expense audit.
- A lease review.

Lease audit rights clauses often state that the tenant (or the tenant's legal counsel) has, upon reasonable notice, the right to visit the landlord's offices and review the applicable accounting records. These clauses sometimes also have procedures for resolving any disagreements that may result. Errors and overcharges by landlords may lead to rent refunds and future savings for tenants.

Maintenance

A maintenance clause specifies any tenant duties to care for the leased space (or for the entire building if the sole tenant). The clause also describes landlord maintenance responsibilities.

Parties

Leases generally begin with a clause entitled "Parties" that names the landlord and the tenant. Sometimes, the clause may be entitled "Landlord and Tenant" or "Lessor and Lessee." The names on the lease should be the legal names of businesses, because any error in the way the landlord or the tenant is identified



can have serious repercussions. For example, using business names, not personal names, on the lease shields individuals from personal liability.

Premises

A premises clause identifies the space a tenant occupies. If a tenant leases an entire building, the clause typically gives the street address and should describe any outbuildings or lots that come with it. When a tenant leases part of a property, the lease space should be described precisely. For example, the premises clause should describe access to storage rooms, conference rooms, parking and so forth.

Rent

While seemingly straightforward, the amount of the monthly rent obligation specified in the rent clause is a very important issue. There can be a good deal of negotiating room available, even if the rent itself is already established. For example, it may be possible to negotiate:

- Automatic rent increases—what they are based on, when they are in effect and how much the increase should realistically be.
- Tenant improvement deductions—what approved improvements to the building the landlord agrees will result in rental decreases.
- Operating costs—how much of the landlord's operating costs will be passed on to the tenant.
- Unanticipated expenses—what methods will be used for dealing with unanticipated rent issues and increases.

Security deposit

A security deposit is the amount required by a landlord in advance of occupancy as security against potential damages caused by the tenant.

Deposit amounts are tied to the landlord's investment, the monthly rent amount and potential risk of damage through use. Instead of a security deposit, a landlord may ask for a letter of credit from a tenant's bank, in which the bank sets aside an agreed-upon amount of funds for use by the landlord should the tenant default on financial obligations.

Term

A term clause describes the length of the lease and specifies the starting and ending dates. Some leases start as of the date the lease is signed. In other leases, there may be many "start" dates, corresponding to when a tenant can enter to set up, when rent is due, when insurance must be in place, when business can commence and so forth.

Sometimes a tenant can receive a rent discount for a longer term. There may be a correlation between the length of the lease term and the cost of the space rented.



Use and exclusive Use and exclusive clauses define how a tenant can and cannot use the property being leased.

A use clause limits how a tenant may use the rented space. Use limitations can range from broad (e.g., the business to be conducted on the premises) to narrow (e.g., the specific services or products offered) or vague (e.g., the quality level of the business). A use clause may preclude a tenant from expanding business into new areas. Or it may restrict the manner and style of any signs or advertising on the premises.

Landlords can impose use restrictions for any of the following reasons:

- Promises to other tenants that no one will compete with them
- Concerns about liability based on the type of business
- Personal biases about certain kinds of business activities

An exclusive clause is a landlord's promise that the named tenant and no one else in the building may engage in a particular type of business. For example, a powerful anchor tenant in a shopping mall may have an exclusive clause to carry a certain type of merchandise. An exclusive clause of one tenant becomes a use clause for another tenant.

Utilities A utilities clause describes how the utilities will be billed and paid for.

General provisions General provisions cover the mechanical operation of the lease. These provisions often cover the following items.

- **Parties to the lease.** This provision ensures that the appropriate authorities in fact recognize both entities entering into the contract relationship and that the individual signing the lease has the legal right to do so.
- **Payments to be withheld.** If a conflict should arise concerning some payment, the tenant should continue paying as per the lease until the conflict has been settled. Then any differences should be refunded.
- **Broker's commission.** All parties should make commission agreements in writing, signed and reiterated in the lease.
- **Quiet enjoyment.** This provision should define what "quiet enjoyment" is and set forth the tenant's remedies of a problem.
- **Attachment of premises/liens.** Any lien placed on the property without the landlord's consent is considered a default.
- **Attorneys' fees.** This may provide that the loser of any legal proceedings will be required to pay the legal fees of both parties.



- **Notices.** This provision gives the address of the person(s) to whom any notices (referred to throughout the lease) should be directed.
- **Landlord's processing costs.** This clause provides that any documentation such as drawings or specifications requested by the tenant can be provided, at a price.
- **Arbitration.** If both parties agree to this provision, it provides that any disputes will be solved through arbitration rather than the court system.
- **Demolition.** The landlord may reserve the right to demolish and rebuild during the lease.
- **Encumbrance.** Any encumbrances must be consented to by the landlord.
- **Time.** Any provision of the lease operates with fixed time periods.
- **Guaranty of lease.** All signers of the guaranty are liable for the full amount of the lease.
- **Notice of mortgage intent to cancel.** Tenants have the responsibility to notify the landlord's lender before taking any action that will jeopardize the loan payment. This may include landlord failure to cure a default or eviction.
- **Financial disclosure.** The landlord has the right to review any financial statements or credit reports available on the tenant previous to or during lease negotiations.
- **Waiver of jury trial and counterclaim.** Both parties waive the right to a jury trial should any legal proceedings begin concerning the lease.
- **Recordation.** This is the process by which the transfer of property rights from landlord to tenant can be made part of the public record. This will help the tenant to get leaseholder's insurance.
- **Covenants and conditions.** This provision explains what recourse is available for violation of a covenant or a condition.
- **Successors and assigns.** This states that lease covenants apply to all succeeding tenants.
- **No prior agreements.** Only the most recently signed draft of the lease is binding.
- **No oral modifications.** Anything agreed upon in negotiations must be put into the lease, in writing, or it will not be enforceable.
- **Lawful money.** This provision states what monies may be used as payment. This is most applicable to tenants using other than U.S. currency.
- **Invalid provisions.** If one aspect of the lease is found invalid, the rest of the lease is not affected.



- **Gender captions.** “His” refers to both “his” and “hers,” “he” also refers to both “he” and “she,” etc. Also, the words beneath a paragraph heading define the agreement, not the captions themselves.
- **Examination of lease.** The tenant has the right to have some time to examine the lease. If the landlord gets another offer, the tenant may request notice so he can make a decision before one is made for him.

There are a host of other significant terms and clauses to be aware of when negotiating commercial leases. Again, the items discussed here are not exhaustive. And specific lease inclusions will vary. The importance of due diligence is critical.

Visit the IFMA Facility Management Learning System online Resource Center for a sample lease.

Did You Know?

In China, most foreign organizations cannot purchase property and local agents must lease the property for them.

Broker commissions and attorneys’ fees are subjective, as they are not mandated.

Lease accounting

The volume of lease transactions globally is huge. In the U.S. alone, the figure exceeds a trillion dollars.

Under current accounting practices, organizations choose between two methods for classifying leases: operating leases or capitalized leases. The financial statement effect of an operating lease is that the lease payments are reported as rental expense on the income statement. Conversely, a capitalized lease requires that an asset and a liability be recorded on the balance sheet. As a result, most lease agreements are purposefully structured in a way that avoids the capitalized treatment; the vast majority of lease liabilities are not recognized on an organization’s balance sheet.

In an effort to improve transparency and provide users of financial statements with a complete and understandable picture of an organization’s leasing activities, the International Accounting Standards Board (IASB) and the Financial Accounting Standards Board (FASB) have proposed new regulations that would significantly change lease accounting.



Dating back to 2010, IASB and FASB jointly released exposure drafts of the new accounting standards. The general consensus is that the first set of financial statements required to reflect the new standards would be no earlier than for the years ending 2015 or 2016. However, as these statements would have to include a comparison to the prior two years, the changes would also need to be reflected in the 2013 or 2014 results at that time as well.

What do these lease accounting changes mean? The proposals introduce complexity into an accounting system that has been used for decades. The rules are complicated, and the impact on corporate financial statements will be significant.

Without getting into the accounting “weeds,” the main points are:

- Eliminating the distinction between an operating lease and a capital lease and the resulting off-balance-sheet obligations.
- Eliminating rent as an operating expense; recognizing a liability for obligations to pay rent.
- Capitalizing leases and requiring balance sheet recognition of all leases, including existing arrangements.

The changes in lease accounting will impact loan agreements, new or extended leases, sale-leaseback arrangements and more. Debt loads will increase on organizational balance sheets. Amortization of asset and finance expenses will change. Reported capital spending will be higher. In essence, the change will transform lease accounting into a fundamental element of strategic portfolio planning—especially for organizations with broad national or global real estate portfolios.

Given the impending regulatory changes, it is not too early for organizations to start preparing for the impact on their financial metrics, business processes, debt structuring, tax strategy and information systems. It will be imperative for facility managers to work even more closely with the finance personnel, legal counsel and any others involved when leases are negotiated and financing is being planned.

Exit strategies

Leases should be structured to provide mutually agreeable provisions that allow for changes in business situations (such as moves, expansions, contractions, facility closings, business closings and so forth).

A facility manager needs to be aware of possible exit from a lease and understand how different scenarios could affect the task. Being tuned into



possibilities and being proactive in planning (based on how the organization is doing) will help minimize any surprises.

Common exit strategies include subletting and assignment, termination and lease buyout.

Subletting and assignment

If effectively negotiated, subletting and assignment provisions in a lease allow a tenant to get out of a lease or permit someone else to use it. Subleasing or assigning does not completely release a tenant from liability or responsibility. It merely disperses some of the tenant's liability to the subtenant or assignee. The difference between a sublease and assignment is in the transfer of the property interest. A sublease is a partial transfer; an assignment is a full transfer.

Subletting and assignment terms should be negotiated at the outset, when the lease is being drafted. They should also be carefully reviewed.

Landlords often add provisions that can make it difficult for a tenant to sublease or assign.

Examples:

The lease can have a provision that absolutely denies subleasing or assignment. If a tenant proceeds to sublet or assign in spite of such a restriction, the landlord can void the transfer and continue to act as if the original lease is in full effect. Or the landlord may seek rent from the subtenant or assignee.

A landlord may recapture the space. If this occurs, the tenant no longer has the right to sublease or assign the space. The landlord subleases the space back from the tenant, which keeps the tenant on the hook for its obligations under the lease.

The space may only be sublet or the lease assigned for the "permitted use." The ability to sublease the space or assign the lease limited to permitted use may make it difficult or impossible and unreasonably restricts flexibility.

Why sublease as opposed to assign? In practice, the decision is complex. Simplified, it is a matter of privity. Privity is a legal term that describes a mutual interest in property between two parties. Privity creates legal responsibilities and obligations between the parties.

There are two types of privity that concern leases:

- **Privity of estate.** Privity of estate is created between a landlord and a tenant. It creates liability for certain covenants in the lease.
- **Privity of contract.** Privity of contract is created between two contracting parties.



A sublease is an agreement only between the tenant and the subtenant, not between the subtenant and the landlord. Subleases do not affect privity between the landlord and the tenant, and they do not create privity between the landlord and the subtenant.

An assignment is a transfer for all or part of the leased premises for all of the remaining term. When a tenant decides to assign, it should be made clear through a written agreement to the assignee and the landlord that the transfer is an assignment. This ensures that the assignee properly assumes liability for the premises. Privity of estate ends between a landlord and a tenant when the tenant assigns its lease. The assignee in a sense replaces the tenant and assumes responsibility to the landlord for rent, repairs and surrender of the premises when the term expires.

Exhibit 5-78 provides general guidelines for assignment and subletting exit strategies.

Exhibit 5-78: Guidelines for Assignment and Subletting Exit Strategies

Do ...	Do not ...
✓ Carefully assess initially and then keep current with organizational needs in terms of expansions and contractions. ✓ Get legal counsel involved at an early stage in a lease. ✓ Require assignment and subletting flexibility and sharing rights. ✓ Review existing agreements frequently to know tenant rights. ✓ Limit extent of guarantees and amount of security deposit. ✓ Try to limit the initial out-of-pocket costs (such as the landlord doing improvements or providing allowances) to preserve lines of credit and savings for possible downturns. ✓ Get terms in writing. ✓ Be cooperative and forthcoming in trying to work out an exit solution.	✓ Be in a hurry; always negotiate terms. ✓ Consider a location solely on the rental terms; remember, due diligence is key. ✓ Overlook the necessity of getting necessary permits or approvals and their impact on the timing. ✓ Sign a lease without negotiation or addressing important provisions to preserve exit strategies. ✓ Be hesitant to talk to the landlord about concessions during lease negotiations or in existing deals. ✓ Rely on oral agreements.

Termination

Termination of the lease is another way of exiting the lease. A tenant will want to ensure that certain termination rights are included in the lease.

Examples:

A tenant will want the right to terminate the lease if the premises are made untenable (unsound) for a length of time (usually 90 days to one year).

A tenant will also want the right to terminate the lease if a substantial part of the premises is made unavailable or if necessary facilities are made unavailable.



Tenant default does not normally automatically provide for lease termination.

Upon termination of a lease, a landlord is typically allowed to recover unpaid rent up to the termination point but not rent due beyond that point (unless there is a specific provision allowing collection of future rent). The future rent collected is typically diminished by rent received from re-leasing.

Lease buyout

The term “lease buyout” refers to an agreement where the lease of an existing tenant is given up for its remaining term. The agreement makes the existing lease null and void at the point the agreement is signed. A lease buyout may be undertaken by the landlord or the tenant. (In some scenarios, a lease buyout may be undertaken by a third party, but that is beyond the scope of this discussion.)

Examples:

A landlord may choose to make a lease buyout to replace an existing tenant with a new tenant who will pay a higher rent. The landlord pays the tenant an agreed amount to extinguish the lease.

A tenant may choose to make a lease buyout to shift the business to a different location. The tenant pays the landlord who owns the commercial property a sum of money to end a lease before it officially expires according to a lease contract.

Terms of a lease buyout are sometimes part of the original lease contract; other times, a buyout is something that is agreed upon by a landlord and tenant during the lease term.

Property divestiture

Real estate can become excess to the needs of an organization for any one of the following reasons:

- Obsolescence
- Workforce reduction (downsizing)
- Change in products or services
- Change in demographics
- Market changes
- Economic changes that force the organization to relocate

This list is not exhaustive. Situations arise and necessitate that an organization dispose of owned property or vacate a lease property. Whatever the reason, a facility manager needs to be as knowledgeable and engaged in the divestiture of property as he or she is in the acquisition process.

Excess (surplus) property is not necessarily bad. For example, an owned property may be planned excess and obtained at a favorable market rate with



the intention of future expansion. The negative aspects of surplus real estate arise when the property becomes excess for unanticipated reasons. The costs of carrying excess real estate are generally significant. Even vacant land is costly and rarely increases in value to sufficiently offset interest rates, management costs and taxes.

Basic options for divesting commercial real estate include:

- Sale.
- Sale and partial lease-back.
- Subdivision.
- Demolition and redevelopment.
- Tax-free exchange.
- Donation.
- Adaptive reuse.

These divesting methods have potential upsides. In more dire circumstances, a property might be considered for abandonment (which can have legal implications). In some cases of abandonment, the last owner is still liable for various terms and conditions, even if they were not aware of the conditions.

The divesting process

A key step in divesting surplus real estate—really a precursor—is to ensure that there is no forecasted property need that the excess property could conceivably fulfill. It would be a most unpleasant scenario for an organization to divest excess real estate only to realize shortly thereafter the property could have fulfilled a need in another six to 12 months.

Once due diligence with appropriate stakeholders confirms that there is no imminent need for a surplus property, a facility manager should work with the finance department and determine how to maximize the profit or minimize the loss. Potential equity in the property must be evaluated. Equity may be enhanced by unused or deferred tax deductions or allowances. Consideration must be given to any property taxes that may be due at the time of disposal.

Reflect back on the organization's due diligence process for real estate acquisitions. If the property is to be sold, prospective buyers will typically have many similar information needs and inquiries. Consequently, you may reasonably expect that a prospect will want to know information such as:

- The amortization rate.
- How much depreciation to expect and at what rate.



- Property valuations and assessments for comparable properties in the surrounding area.
- Any special exemptions and tax breaks that can be passed on.
- Building operational costs (especially energy and water).

Of course, any issues that pose potential liability must be identified and addressed before divestiture. For example, if a Phase I Environmental Assessment or other environmental due diligence by a prospect uncovers the presence of hazardous materials, the organization holding the property at the time of discovery tends to be liable for the solution. If the buyer continues on in the process and remediation activities cannot be completed before closing, there's a high probability that your organization would need to establish an escrow account to cover the anticipated costs and additional investigation with an appropriate environmental indemnity that will survive closing.

Some organizations may have formal policies and procedures for divesting property. Government agencies, for example, often have a systematic process including mission and financial analysis, an environmental impact statement and a public hearing.

The decommissioning process

When vacating leased office space, a warehouse, a light industrial facility or similar properties, the term “decommissioning” generally refers to the administrative and technical actions taken to restore the leased space to conditions specified by the landlord in the lease. Space must be returned to the landlord to enable full vacancy. Meeting all back-end requirements is necessary to ensure that your organization receives its complete security deposit and is not charged hold-over penalties or assessed costly fines.

Decommissioning leased facilities of this type involves activities such as:

- Space restoration—eliminating any modifications or add-ons that would result in penalties, cleaning up the space and other activities so the space is returned to a pre-defined or documented condition.
- Asset disposition—liquidating, recycling and disposing of office furniture, racking and technology equipment for which the organization has no use.
- Cable removal—removing voice and data cabling associated with phone lines, computer networks and server rooms to ensure compliance with codes and lease requirements. (Note: Cabling is often a code requirement during any renovation or cabling project.)

Decommissioning could encompass building codes (e.g., removal of plumbing), environmental conditions and/or regulatory requirements.



Decommissioning of other types of facilities can be much more involved. Decommissioning large plants, for example, is a major project that spans deactivation, decommissioning and a demolition/redevelopment process with rigid regulatory requirements. Such an undertaking requires third-party expertise.

Large or small, property divestiture is not an afterthought. During the lease negotiation process it is important for the facility manager to pay close attention to what the landlord wants in terms of returning the space.

Examples:

Codes

Overlooking a statement such as “space shall comply with all applicable codes in force at the time” could have a huge impact if there are code changes over the term of the lease. Facility managers cannot erroneously assume that codes are static or that the space they received was completely in compliance at the time of lease commencement.

Special items

At the time of lease commencement, subfloors are reinforced for high density file rooms. This will add to the expense of leaving a facility. It should be clear as to who should own it.

Just as with site selection and acquisition, a facility manager needs to carry out the responsibilities in the best interests of the entire organization.

✦ Topic 4: Portfolio Management

In real estate, a portfolio is a collection of property or other investments held by an individual or organization. Investors put money into real estate for one of two reasons:

- They want the property for their own organization’s operational use.
- They expect to make money by leasing the property or subsequently selling it.

Portfolio management describes the unified management of a group of properties. Portfolio management decisions are made on the basis of achieving the maximum benefit for the owner. In this context, decisions take into account the effect on the portfolio as a whole rather than an individual property.

For a facility manager, portfolio management involves strategic and operational activities. The paths are not mutually exclusive; they are aligned in many ways.



Strategic activities

True to the label, the strategic path encompasses strategies; portfolio management strategies link organizational strategies with real estate and facility operations and help to control expenses. A facility manager needs to look at the big picture for all properties in the portfolio and consider how to optimize management of them. Strategic activities apply to portfolios of any size—even an individual property.

Examples of portfolio management strategic activities include:

- Alternate space strategies—to reduce overhead and improve operations and productivity.
- Leasing communications—to generate roof rents for wireless technology.
- Building operations and capital improvements—to ensure effective and efficient operations.
- Strategic asset planning and management—to unlock the value of surplus or underutilized space.
- Property tax strategies—to ensure that the organization pays no more than required.
- Lease administration—to phase the termination dates of multiple leases and to provide options and opportunities for expansions or contractions.
- Lease auditing—to ensure that pass-through expenses for operating and common areas are appropriate.
- Life-cycle cost analysis—to evaluate capital expenditures by comparing the total costs of owning new or replacement assets over their lifetime.
- Portfolio risk—to mitigate risk and distribute risk across the portfolio.
- Environment stance—to support and promote environmental programs and sustainability efforts.
- Bottom-line-driven business cases—to add facility management value to financing decisions.

Senior or executive management and board communication

The ability to influence senior or executive management (the “C-suite”) is an essential requirement for a facility manager. Chances are that a chief executive officer, a chief financial officer, a real estate director or board members do not have the detailed knowledge of facilities that a facility manager does. Yet most real estate decisions need C-suite or board approval. That means a facility manager needs to build business cases and be able to present them in the language of those executives.

Strategic communication with high-level executives need not be daunting. At a base level, it comes down to knowing the audience, providing information in



the way they want to receive it, maintaining an open exchange of feedback and keeping the executives informed in an appropriate and timely manner.

(Note: The *Communication* competency examines the importance of knowing an intended audience and other fundamentals of effective and efficient communication.)

To be an effective strategic communicator, a facility manager must understand the organization's strategies and business plans and communicate real estate and facility management solutions in an aligned manner.

Example:

If an organizational objective is to reduce general and administrative costs by 10 percent, an appropriate real estate goal might be to reduce occupancy costs with the objective of improving space utilization by 10 percent.

When communicating with executives, a facility manager's challenge is to show how a proposed expense impacts the overall business operation. For example:

- How does an expense minimize the cost to acquire customers, payroll, asset acquisition and maintenance?
- How does an expense maximize business monetization and growth and shareholder value?

Exhibit 5-79 on the next page summarizes three “must haves” for a good executive-level proposal.

It has been said that the higher a facility manager presents, the less he or she should say. Senior or executive management and board communication is about selling facility management in business terms.

(Note: Check the *Finance and Business* and *Leadership and Strategy* competencies for additional information about FM business cases.)

Operational activities

The operational path is more tactical and includes the whole gamut of FM practices to provide defined and consistent levels of service support to meet the requirements of occupant groups. Operational activities encompass the day-to-day functional tasks and managing the specifics of all properties. Tools are required to assess how the real estate portfolio meets the needs of users.



Exhibit 5-79: Elements of an Effective Executive Proposal

#1: Options—Do-nothing scenario vs. A, B or C options	
Do-nothing scenario	The “do-nothing scenario” should answer questions such as (but not limited to): • What will happen if the organization does not fix it, buy it, improve it? • What expenses would be incurred—when and where? • How much business would be lost? • What other liabilities might be incurred? • What is the total risk?
Options A, B, C	The options offered as solutions must show how the options will either make money, save money or help meet compliance requirements. The options should answer questions such as (but not limited to): • What is the money or compliance impact? How so? How much? • How are competitors meeting this challenge? • What do the top vendors recommend? • What does Web research show? • What has been the historical approach and outcome?
#2: Impact analysis—for A, B or C options	
Detail of each option’s positive impact on the business	Impact analysis should describe key points such as (but not limited to): • Tangible business impact—performance, service delivery, savings, compliance, warranty and repair, administration, errors, resources. • Intangible business impact—sustainability, time savings, recognition, business showcase, brand Improvement. • How long it will take to recognize the benefits. • What top vendors recommend. • The pro’s and con’s of outsourcing. • What Web research shows. • What the historical approach has been and the outcome.
#3: Cost analysis	
Projected initial costs	A discussion of initial costs such as assets, people, training, support, legal and others
Projected future costs	A discussion of projected future costs such as licenses, maintenance and other costs
Quantifying costs	Capital investment analysis results such as cost-benefit analysis, payback period and return on investment

Source: Adapted from IFMA FM Consultants Council. “Making a More Effective Business Case to the C-Suite.” IFMA Facility Fusion Presentation, April 2012.



ASTM standards

ASTM Standards for Whole Building Functionality and Serviceability provides measures of quality, functionality and capability. Scales cover more than 100 topics of serviceability and assess more than 300 building features. The ASTM standards allow facility managers to:

- Determine functional requirements.
- Measure the quality and service ability of facilities.
- Verify that those abilities match stated requirements.

Applied in portfolio management, the ASTM standards help to ensure a better fit between a facility and the needs of users. Substantial savings and productivity increases can be realized.

Portfolio management records

Organizations depend on timely, accurate and comprehensive information about the performance of their assets. Systems must be in place that inventory and track real estate holdings, their use and performance.

Manual methods and databases have traditionally been used to organize property information. As organizations grow in size and complexity, the need for information to manage the portfolio increases. Various portfolio management software programs greatly streamline the process and facilitate the management and analysis of multiple properties.

Whether a real estate portfolio is small or large, in one location or spread around the globe, such programs provide a centralized repository of easily accessed information. Specific software features vary across different programs, but applications typically allow the ability to:

- Define individual items as owned, leased or subleased.
- Define property categories (buildings, structures and land).
- Track cost performance data.
- Facilitate a wide variety of portfolio performance data analyses or drill-down capabilities to individual portfolio items.
- Use graphical tools to display real estate portfolio data in its entirety or by specific criteria.

Benefits to FM include:

- Comprehensive tracking and analysis of portfolio properties.
- Robust root cause analysis to ensure appropriate service levels.
- Reduced departmental administrative costs.
- Better management and rapid fact-based decisions.
- Improved alignment with organizational needs.



Facilities in an organization's portfolio require active management on both fronts—strategic and operational—to achieve maximum benefits. Organizational leadership looks to facility management to handle both. Income must exceed expenses for a portfolio.



Progress Check Questions

Directions: Read each question and respond in the space provided. Answers and page references follow the questions.

1. True or false? An organization is evaluating a commercial office building for acquisition. Due diligence should include a review of existing leases.
☐ a. True
☐ b. False
2. A lease with a purchase option is **most** appropriate when the organization
☐ a. cannot take advantage of tax credits.
☐ b. plans to use the real estate for more than five years.
☐ c. needs to find a development partner.
☐ d. lacks the initial capital.

Match each type of lease with its characteristic.

- | | |
|-------------------------------|---|
| 3. _____ Gross lease | a. A tenant pays a percentage in addition to base rent. |
| 4. _____ Modified gross lease | b. Changes in base rent are known at the time the lease is signed. |
| 5. _____ Revenue-based lease | c. All tenant costs are included in the base rent figure. |
| 6. _____ Step lease | d. A tenant must pay some or all of the operating expenses, maintenance, insurance or property taxes. |
| 7. _____ Net lease | e. The landlord and the tenant both pay some mix of operating costs. |

8. Name two reasons why real estate can become excess to the needs of an organization.



Progress check answers

1. a (p. 5-212)
2. d (p. 5-215)
3. c (p. 5-221)
4. e (p. 5-221)
5. a (p. 5-221)
6. b (p. 5-221)
7. d (p. 5-221)
8. Specific answers will vary. Real estate may become excess due to:
 - Obsolescence.
 - Workforce reduction (downsizing).
 - Change in products or services.
 - Change in demographics.
 - Market changes.)
 - Economic changes that force the organization to relocate. (p. 5-234)

Next Steps

You have completed this competency of the IFMA Facility Management Learning System. Next, check your understanding by completing the online competency-specific chapter quizzes and case study to help you identify any concepts that need additional study. Check your understanding another way by selecting the competency-specific eFlashcards, or visit the Resource Center to download printable flashcards.

Once you have completed the chapter quizzes, reviewed the eFlashcards, completed the case study and feel confident that you have mastered the information, you can advance to the next competency.

