

Implementing the Capital Plan

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Developing a comprehensive long-term capital plan to manage the facilities portfolio is a major challenge. Implementing that plan is yet another. This article provides a template of the critical issues that must be considered when devising a strategy for implementing the institution's capital plan.

Generally four questions must be addressed in developing the implementation strategy:

- When should the projects be implemented?
- How should the capital improvements be implemented
- What will it actually cost in terms of project costs as well as operating costs?
- Who will implement the plan?

Answers to these questions provide the information necessary to implement the capital plan.

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Priority

Not all projects in the capital plan carry the same priority. Generally, most projects fall into one of two categories: 1) projects necessary to maintain the operational integrity of the institution, including code compliance or regulatory mandates, support infrastructure such as utilities or transportation, and major repairs or rehabilitation; or 2) projects that have a strategic importance to the institution and those that further its mission and goals, such as new construction or renovations necessary to enhance programs or accommodate growth or mission expansion or redirection. Some projects may have elements of both categories; for example, the renovation of an older building to support a new program may also include a number of repair projects, such as a new roof and upgrades to the building façade, as well as necessary code compliance improvements.

The number of methods developed to set priorities in a capital plan is about as numerous as the number of higher education institutions. Most of these methods are highly subjective, trying to weight various factors such as need, timing, coherence with objectives, and the like. Such methods are well documented in various publications of both APPA and the National Association of College and University Business Officers (NACUBO).

The application of financial measures is less common. However, as is in most business enterprises, decisions to invest capital in plants or equipment should be evaluated in terms of the return on investment (ROI). This is especially true for projects related to the institution's growth or program redirection; for example, a new classroom building should accommodate increased enrollment or credit hour production. This can be directly translated into increased revenue. In this case, the ROI for the investment can be com-

puted. Similar computations can be made for residence halls, food service areas, recreation facilities, student unions, parking garages, and athletic facilities. The higher education institution's ROI may not compare favorably with investments made by for-profit businesses, but it can be used to weigh the relative priority of various investments.

For projects that maintain the viability of campus operation, the same computation is possible if the costs resulting from a "do-nothing" decision are estimated. For example, what would be the cost of disrupted campus operation, fines, or further damage if the investment were not made? Such an analysis is called a cost-benefit analysis. The Federal Emergency Management Agency, an extensive user of this method, routinely uses it for ranking various decisions on projects undertaken to mitigate damage caused by floods, earthquakes, or other natural disasters.

Applying cost-benefit analysis for a renovation or capital renewal project begins with an estimate of the lost revenue resulting from the complete or partial downtime should the facility or equipment fail. For example, the loss of a classroom building can be estimated by computing the credit hours that would not be produced and the reduction in net revenue from the loss of that credit hour production. In computing net revenue, only those expenses that would actually be avoided are deducted from total revenue. Faculty salaries would continue to be paid, while the costs of electricity might actually decrease in the inoperative facility. The net revenues for the time required to reactivate the facility can then be evaluated against the cost of a planned renovation, for which work can be scheduled when facility use is minimal. The relative cost-benefit ratio for each project can be established, and the projects can be prioritized based on their impact on the institution. The importance of this technique for ranking projects lies not in comparing the cost-benefit ratio against external measures but in comparing them for all such projects in the capital plan.

While a financial measure of the relative importance of each project is the most objective measure, it is also necessary to consider intangible factors, including issues related to faculty retention, public relations (community, alumni, parents, and so forth), and political issues with trustees and other gov-



erning entities. If financial measures are initially used to establish relative priorities, final priorities can then be adjusted based on those subjective factors. However, it is always important to establish the criteria to be used to determine priorities and how such criteria are weighted and applied. Failure to establish a systematic and defensible prioritization methodology will lead to distrust and manipulation.

Methodology

Too often little thought is given to how the capital plan will be executed. Yet such decisions can often have a profound effect on the cost of a project as well as the time before expected benefits—especially financial ones—will begin to flow. Decisions on the best delivery method must be made on a project-by-project basis, given its unique characteristics. Most campus officials would agree that a serious roof leak should be repaired immediately. Taking the time to prepare specifications in order to gain the benefits of the lowest price through competitive bids may greatly outweigh the cost of continued damage to the building and its contents. Yet even

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mundane projects will often have characteristics that dictate a method of accomplishment that either maximizes benefits or reduces costs, or both.

Traditionally, the field of higher education has not been concerned with the factor of time. Yet as in industry, speed of project delivery or acquisition is extremely important, because time itself erodes the benefits of any capital decision. The most vivid example of this is the effect of time on the acquisition of new information technology. Examples abound showing that the installation of a new information system took years to complete, just in time to find the technology obsolete.

Reducing the time needed to complete or acquire any capital project has three significant benefits. First, the impact of inflation or market fluctuations is reduced. Often funds are raised to pay for a project based on certain assumptions about its cost and the anticipated escalation of costs during the construction or acquisition period. The longer it takes to build the facility, the more speculative such assumptions become. If they prove erroneous, the funding will be insufficient to complete the project, and thus changes in scope or quality will need to be made during the period of time a building project



is planned and the time it is completed. Reducing the total time from inception to completion reduces an institution's exposure to changes in pricing that often occur in a dynamic economic environment.

Second, shortening time to completion reduces an institution's exposure to changes in technology or leadership. Change orders in construction projects are a fact of life. However, change orders that adjust program scope as a result of a change in leadership, and the consequent revisions to vision or operational philosophy, are very costly. In addition, changes prompted because recent advances in technology have made the original specification obsolete are similarly expensive once acquisition or construction has begun. Reducing the cycle time for asset acquisition reduces the opportunity for change, and thus change orders.

Third, reducing the completion time also means that the asset will be able to produce the intended results sooner. In other words, income (or cost avoidance) that comes as a result of the asset will be produced earlier. If, for example, the institution can reduce the construction period of a building from 24 months to 18 months, the returns from the asset increase by 6 months at no additional expense. Moreover, interest expense from construction period financing is reduced, as well as expenses such as insurance or contractors' general conditions.

The benefits of reducing acquisition time require campus officials to be sensitive to the process used to plan, design, bid, and acquire an asset. In the construction industry, recent studies have indicated that the use of the design/build approach can shorten the construction period by as much as 30 percent from the more traditional design/bid/build method. This and other improved procurement methods suggest that the factor of time as well as price should be considered in any capital plan.

Regardless of the methodology chosen, the time required to acquire or construct an asset must be incorporated into the capital plan, because it will affect both the cost to acquire that asset as well as the income or benefits that flow from that capital investment.

Costs and Cash Flow

It is said that you can spot the true expert by the person who predicts a project will cost the most and take the longest. It is not uncommon to underestimate the true cost of acquiring an asset. Although some of this underestimation is a result

of over optimism, it is more often a result of an inaccurate estimate of the true costs, which come in the form of capital and operating expenses.

To better estimate the capital cost of a project, an institution should generate a total project cost (TPC) budget. This budget should include not only the raw construction cost but also other "soft" costs, such as fees, licenses, loss of income, and other less apparent expenses resulting from the project or acquisition. Such questions as "Are the cost of telephones included?" or "Will additional furniture be required for tenants or public areas?" should be asked to make sure that the budget covers all potential cost exposures. Much has been

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written about the importance of generating a realistic TPC, and the methods are well documented in the various reference sources listed in this book. However, the best source often is the institution's own history. An accurate project accounting system for major projects and equipment acquisition will often establish the types and magnitude of costs experienced for implementing various capital projects. Retention of this history in a database for future reference is important in developing and implementing the capital plan.

Another major cost category, which is often overlooked, is the increase in operating expenses during and after a capital project. These operating expenses are related to the internal expenses for project administration and management; commissioning; activation and occupancy; and subsequent operational expenses for building and equipment maintenance, insurance, utilities, and other routine operations. Estimation and inclusion of these expenses are important elements in implementing the plan. Such expenses should be budgeted in annual operating budgets as the capital plan is implemented. The acquisition of any capital asset will result in long-term recurring and episodic expenses that must be recognized and accounted for in the institution's operating budget. To do otherwise is wishful thinking. Again, a detailed accounting system that properly identifies such expenses is a useful source of information for estimating future operating costs.

Staffing

Because the consequences of errors can be costly, managing the implementation of the capital plan is an important job in

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itself. In some instances, poor implementation can threaten the very existence of the institution. Developing an implementation strategy and plan should take into account the requirements on existing staff as well as the need for additional staff or professional services to attend to the countless details of construction or acquisition. Preparing the institutional community for the time and effort required to deliver the capital plan is a key contributor to its success.

One of the greatest obstacles to timely implementation is the institution's inability to accommodate the additional time and effort the capital plan requires beyond routine job responsibilities. For any capital project, the commitment of internal staff and executive time is necessary to develop the information, to create documents, to establish budgetary and schedule controls, and, most important, to make critical decisions. Establishing a project work plan that defines workload requirements according to various participants and specialty areas helps the institution prepare for implementing the plan.

Integrating the Essentials

Each of the four elements (priority, methodology, cost, and staffing) is a necessary component of an implementation strategy. But in themselves these elements do not form a complete picture. A method for displaying the complete capital plan in terms of both time and cost is necessary.

A simple but very powerful tool for displaying the plan for implementation purposes is the electronic spreadsheet. A detailed list of categories and cost factors appears in the forthcoming book. Once the spreadsheet is developed, numbers for each cell should be entered, reflecting the current best estimates. In the year columns, estimates should be made for the actual cash outlays expended that year (not encumbered) for each project.

With the spreadsheet completed, it is possible to analyze the capital plan further. Some questions regarding the implementation of the plan can now be asked, including the following:

- **Are there interrelationships between the projects or acquisitions?**

Projects may have either a lead or lag time or a concurrent relationship. One example would be the timing of a major roof replacement (under capital renewal) with a proposed renovation of a building. Concurrent implementation of the two projects would reduce disruption to operations

and may reduce total costs. Similarly, an infrastructure project, such as roadways or utility systems, may have to be implemented either before or after completion of a new construction project. The grouping and display of the whole plan allows adjustments to the timing of projects in order to optimize the interrelationships between projects.

- **What is the estimated cash flow in any given year and can it be managed?**

The preferred priority and desired dates of implementation may create significant funding and financing requirements. The financial officer should ask if these are realistic, given the financial condition of the institution and its ability to raise the necessary funds. For example, a gift may be given over a period of years, raising such questions as Do the anticipated expenses for the project match the years in which gift funds are to be received? If not, can loans be secured to cover this difference in timing? Other issues that need to be considered are the timing and packaging required for debt issuance, funding available from operating margins, and the effect on revenue streams resulting from the projects (increases and decreases). Again, adjustments in the phasing of projects should be made to help achieve optimum financial conditions.

- **Are requirements for staffing and other operational considerations realistic?**

Ambition to implement various projects must be tempered by the ability of the institution to actually devote the time required to manage the various elements of the capital plan. Considering other commitments that are likely to occur, will the institution have the resources to manage the projects as preferred? When do workload commitments peak, and how will this be managed? If the timing of projects is adjusted, can those peaks be reduced or eliminated?

- **How does the capital plan affect other institutional plans?**

The capital plan and adjustments in the timing of projects or acquisitions will induce reconsideration of other institutional plans or strategies. The most common are decisions on ongoing facility operations and maintenance. If a major building is to be completely renovated in two or three years, the facilities manager may choose to

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selectively reduce maintenance or remodeling projects in the building. Similarly, energy conservation improvements should be deferred unless the payback period is less than the time needed for renovating the building.

Other plans may also be affected. Increases in externally funded research may be delayed until new research space is completed. Or plans to increase enrollment may be delayed until additional faculty office space is created and the necessary facility improvements are completed. Further adjustments in the plan may be necessary to achieve strategic objectives, especially if those objectives influence the financial condition of the institution and, therefore, its ability to fund its capital plan.

The development of a capital implementation plan is useful, because it helps the institution's leadership understand the impact of various decisions in real time.

The Final Implementation Plan

In reality, there is no such thing as a final plan. As should be evident, the number of variables in developing a plan for implementation is considerable, and the variables are interrelated. Yet a plan must be put in place that will guide capital and project decisions that must be made today in order to initiate a capital project that will take months or years to complete. In this regard, the final plan is the one that exists today, but with the understanding that a changing environment will require constant review and adjustments in implementation.

The development of a capital implementation plan is useful, because it helps the institution's leadership understand the impact of various decisions in real time. In this regard, scenarios can be prepared to show the effect of both intended and unintended decisions and results. What happens if the full amount of a grant is not received, or general economic conditions change? What would be the impact of changes in technology? The implementation plan can help in analyzing the sensitive areas so that certain decisions or events can be evaluated and, therefore, can guide the institution in its

preparation for the "what-if" questions. Thoughtful consideration of such questions is particularly useful in dealing with trustees, legislators, and other internal constituent groups.

Conclusion

This article examined the elements necessary to develop a strategy for implementation of the capital plan. Regardless of the format used, an implementation plan should include consideration of all the elements that may be unique to a particular institution.

Who is responsible for developing such an implementation strategy? Although implementation involves a number of skills and different types of knowledge, the keeper of the implementation strategy really requires a unique partnership between the institution's chief financial officer and chief facilities officer. Formation of this partnership and the particular responsibilities of each individual are discussed in detail in the new APPA/NACUBO publication, *Planning and Managing the Campus Facilities Portfolio*. 🏛️

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