MAKING YOUR CASE

A comprehensive analysis of your facilities' needs will help persuade decisionmakers to support budget requests.

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FACILITIES
UPGRADE AND RETROFIT

Managing education facilities involves not only building new facilities, but also repairing old ones. Facility departments at schools and universities face the challenge of determining their increasing capital renewal costs and making the case to administrators, boards and legislators for more money.

America built more schools between 1950 and 1975 than in all the prior years of American history. These buildings are now 25 to 50 years old, and most need serious repair. Many institutions are astounded when they determine the cost of getting their aging buildings in shape—the national average exceeds $50 per square foot.

Because facility conditions are difficult to measure, financial requirements are difficult to demonstrate. One thing is certain: current budgets are not sufficient. Decisionmakers do not intentionally underfund facility renewal. But many do not understand the financial penalty of insufficient funding.

How can you argue persuasively for adequate funds to maintain facilities? Whether you are contemplating doing your own study or outsourcing these services, you need to plan for future budgets and decrease the deferred maintenance backlog. Some important steps in the process: establish repair costs, measure building conditions, forecast future costs, determine the long-term capital renewal budget, and communicate the consequence of underfunding to decisionmakers.

ESTABLISHING REPAIR COSTS

Repair costs refer to correcting current deficiencies. Deficiencies may include problems with building systems (i.e. roof, exterior walls, windows, interior partitions) or engineering systems (i.e. electrical, mechanical, plumbing, structural). It may include life- and fire-safety code violations, ADA noncompliance or environmental problems. A facility manager also may choose to include upgrades, such as computer network cabling, as part of repair costs.

To determine the repair costs for a building, you must assess the building's condition. You must get an inventory of everything that is wrong with the facility; then you need to estimate the cost of repairing each of the inventoried deficiencies.

Most maintenance budgets are based on historical averages and rules of thumb. Schools spend their budgets annually, but there is nothing to gauge if facilities are getting better or worse. And there is no gauge that determines which buildings are the most needy. Once the repair costs are identified, you need an indicator to measure the relative condition of a facility.

MEASURING BUILDING CONDITIONS

The Facility Condition Index (FCI) is a measure of a

TABLE 1

		CURRENT YEAR	FUTURE YEARS					
LINE #	DESCRIPTION	0	1	2	3	4	5	6
1.	Current "repair cost"	$10,000	—	—	—	—	—	—
2.	Future deficiencies	—	$1,000	$2,000	$1,000	$5,000	$3,000	$4,000
3.	Required capital renewal	$10,000	$1,000	$2,000	$1,000	$5,000	$3,000	$4,000
4.	Approved budget	—	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000
5.	Under/over	—	$0	-$1,000	$0	-$4,000	-$2,000	-$3,000
6.	Deferred maint. backlog	$10,000	$10,000	$11,000	$11,000	$15,000	$17,000	$20,000
7.	Replacement value	$100,000	$100,000	$100,000	$100,000	$100,000	$100,000	$100,000
8.	Running FCI	.10	.10	.11	.11	.15	.17	.20

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facility's condition. The FCI formula divides the cost of needed repairs by a facility's replacement value.

Approximate the facility replacement value by looking at current school or campus experience or by using other established guidelines. For instance, a building with a facility replacement value of $1 million and repair cost of $100,000 will have an FCI of 0.10.

Low FCIs are the goal. You can measure the performance of a deferred maintenance reduction plan by monitoring the FCI. You can calculate FCIs for individual buildings or for groups of buildings. The FCI also can help develop budgets and be tracked over time to measure the success of capital reinvestments.

FORECASTING FUTURE COSTS

Getting a handle on future deficiencies is as important as establishing an FCI of current deficiencies. Life-cycle analysis can help project future deficiencies.

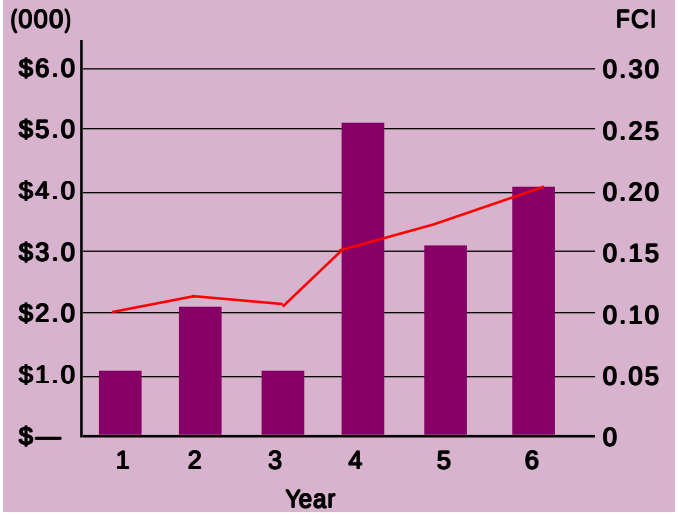
Separating a building into its individual components is an effective way of forecasting future costs. You can approximate future repair costs by estimating the life cycle of building systems (for example, five years for painting, 15 years for carpet, 20 years for roofing) and calculating the cost (new painting, new carpeting or new roofing).

Note that building components deteriorate at different rates. A life-cycle analysis that uses a fixed rate of deterioration (such as 2 percent per year) will lead to inaccurate results. Deterioration costs are not constant; they fluctuate year by year.

A good example is roofing. If a particular building has a hot-mopped, four-ply roof, we may accurately say the roof will cost $4 per square foot and will last 20 years. Fixing the present value of money and assuming a new roof costs $10,000 for a particular building, you should budget $10,000 when the building is built; another $10,000 at year 20; another $10,000 at year 40; another $10,000 at year 60; and continue this budgeting calculation through the life expectancy of the building.

You should go through this process for every major component of the building, including air-handling units, ceilings, VCT flooring, painting, etc.

TABLE 2



DETERMINING THE LONG-TERM BUDGET

By combining repair costs and future costs, you establish short- and long-term capital renewal budgets.

Using the example in **Table 1** (p. 20), current repair cost of $10,000 will fall into year 0 (line 1). Year 0 is used because the work is considered a current need. For this exercise, year 0 will include all current needs even if those needs are not going to be fixed until future years.

"Future costs" fall into years 1 through 6. The example assumes a life-cycle analysis was done and $1,000 is needed in year 1, $2,000 in year 2, $1,000 in year 3 and so on (line 2). Determine the required capital renewal budget after you identify current repair costs and complete an analysis of future costs (line 3). Line 3 is all current and future capital renewal needed for the facility. Under normal conditions, this study would cover at least 10 years into the future.

COMMUNICATING CONSEQUENCES

A convincing argument is the only way a school facility manager will get an adequate budget. Using the concepts outlined above, you can show the consequence of insufficient funding. Line 4 of Table 1 is the approved hypothetical budget. Normally, your yearly anticipated or approved budget would be entered on this line.

The difference between required capital renewal and approved budget is the amount of under- or overfunding of capital renewal (line 5). A positive number here—overfunding—means you are reducing deferred maintenance. On the other hand, a negative number means the costs of deferred maintenance will increase.

Line 6 is the cumulative total of deferred maintenance. For instance, in year 0 we had identified $10,000 of deferred maintenance. In year 1 we budgeted $1,000, and our life-cycle analysis required $1,000 for the same year. So, our deferred maintenance stayed the same, $10,000. But look at year 2. We underfunded by $1,000. The life-cycle analysis showed a requirement of $2,000 but we budgeted only $1,000. The amount underfunded added to the previous deferred maintenance balance ($10,000 + $1,000) totals $11,000. We continue this for each year of the study.

Line 7 is the replacement value of the building or group of buildings. The ratio of line 6 to line 7 will give you the FCIs for current and future years.

As seen on line 8, the current FCI and future FCIs are calculated under approved budget. Using approved budget as the variable, you can calculate future FCIs for any number of reinvestment scenarios.

Finally, graphically presenting a funding scenario with the resulting FCI can be persuasive. **Table 2** (p. 22) shows the spending scenario as detailed in Table 1.

The dark-purple columns represent the dollars budgeted for future years and are read from the left axis. The red line represents the yearly effect on the FCI that the spending creates. The FCI lines are read from the right axis.

The rising FCI means the backlog of deferred maintenance is increasing. In this case, the FCI went from 0.10 to 0.20 in just 6 years. AS&U

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