



# W H E N IGNORANCE IS NOT BLISS

Deferred maintenance can lead to infrastructure failure. Here are four common causes of inadequate capital budgeting, and mitigation strategies to prevent them.

# WHEN IGNORANCE IS NOT BLISS

The recent tragedy of the Miami, Florida condominium collapse has served as a wake-up call for many building and facility owners and executives. Deferred maintenance and capital renewal have always been a critical area for both executives and those in the field, however, recent events are a compelling reason to take a hard look at their facility infrastructure.

The most common and straightforward approach to addressing deferred maintenance is to employ a Preventive Maintenance regime to appropriately maintain equipment, as well as identify and repair any issues before they become a serious matter. It goes back to the simple adage, “An ounce of prevention is worth a pound of cure.” Depending on the complexity of the facility, Preventive Maintenance can vary significantly in its delivery; it can be self-executed, managed through specialty sub-contractors or delivered by a specialty Facility Service provider. If a Preventive Maintenance regime is absent, then you have a situation where the infrastructure and facility equipment are basically “Run-To-Fail,” which poses a high degree of risk to the organization.

In this case, establishing the Preventive Maintenance regime for appropriate delivery is the first essential step.

While Preventive Maintenance preserves the condition of the infrastructure and equipment, consideration must be given to age and deterioration from use, wear and tear, as well as environmental factors. All constructed and manufactured infrastructure and equipment have a finite lifecycle, and at some point in the operational life, likely, will require retrofits, upgrades, or replacements. The expected life of various infrastructure and equipment varies based on the function, equipment type, business needs, regulatory and compliance needs, technical/technological obsolescence, etc. Additionally, if maintained incorrectly or inadequately during its lifecycle, the end-of-life may be accelerated.

Although retrofit, upgrade, or replacement of a facility are necessary in many instances, capital budget replacement trends, unfortunately, don’t keep up with the requirements, and the renewals are deferred for many reasons. Sometimes, the deferrals are unintentional, and in some cases, deferrals are a conscious business decision.

Below we identify and review some of the most common causes of infrastructure and equipment capital deferral and the mitigation strategies to streamline recapitalization needs:



## COMPETING BUSINESS NEEDS

Most organizations intend to create capital budgets for investing in infrastructure and facility equipment. However, due to competing business needs (e.g. expansion or growth, market dynamics, cash flow, business strategy, etc.), the capital budgets for infrastructure are often reduced.

Suppose the infrastructure and equipment replacement funding is insufficient. In this case, the facility managers are forced to take shortcuts or utilize a "band-aid" approach to keep the continuously deteriorating buildings, systems, and equipment up and running; possibly beyond safe and usable limits. A shortcut is seldom a suitable solution for occupant safety and well-being, and there is no proper justification for taking the shortcuts after the fact.

A disciplined and rigorous approach to capital reinvestment ensures the infrastructure and equipment are productively and reliably executing the business needs at the desired functionality levels.

The Association of Physical Plant Administrators (APPA), a well-regarded organization in the facilities industry, recognizes that facilities require ongoing investments to maintain their function and value. The APPA Body of Knowledge (BOK) article on Capital Renewal and Deferred Maintenance<sup>1</sup> refers to the macro-level estimation guidance from the Building Research Board (BRB)'s publication<sup>2</sup> for empirical guidelines on the appropriate budget levels.

The APPA guideline recommends a budget for routine maintenance and capital renewals ranging from two to four percent of Current Replacement Value (CRV). Major infrastructure, such as utility distribution lines, central utility plants, etc., are excluded from the recommended budget allocation. The guideline also suggests that if deferred maintenance has been allowed to accumulate, the spending needs will be higher than the minimum level until the deferral (maintenance and capital) backlog is eliminated. The guideline further breaks the CRV recommendation into routine

maintenance and capital renewals. The recommended annual budget model consists of 0.5 to 1.5% CRV for regular maintenance and 1.5 to 2.5% CRV for lifecycle renewal. Any deferred maintenance backlog and functional improvements are additional to the recommended budget.

## INFRASTRUCTURE AND EQUIPMENT NEEDS NOT RECOGNIZED OR COMMUNICATED

In some cases, the decision-makers do not recognize or are unaware of the actual infrastructure needs. This situation typically occurs due to a lack of a structured process to evaluate the needs and communicate them effectively to gain the focus and support of the executives who control the budgets.

An essential need for the proper upkeep of a facility is to establish a robust periodic process to identify infrastructure needs. This process should plan, identify, and provide timely updates and upgrades to facility infrastructure and equipment. Facility needs must consider obligations to the occupants, the business purpose, and other factors. In addition to identifying the needs, the process must also include communicating requirements to leadership to be aware of the operational requirements.

With the requirements, deadlines, and expectations communicated to all stakeholders, this periodic process establishes a transparent culture of prioritizing infrastructure budgeting and expenditure.

Effective facility teams utilize maintenance specialists, sub-contractors, and subject matter experts to evaluate the facilities and address the complexities of aging facilities through an annual assessment and analysis before the capital budget allocation. The infrastructure and equipment evaluation should include age, criticality, condition, reliability (failure rate), and obsolescence, along with a rough order of magnitude cost so that decision-makers have the necessary information for prioritization and planning.

## INADEQUATE BUSINESS JUSTIFICATION FOR INFRASTRUCTURE EXPENDITURE

More often than not, the requests for infrastructure and equipment needs do not adequately explain the business need or provide appropriate justification.

An inadequate business justification is one where the need for infrastructure and equipment replacement is not well articulated. In such a case, the decision-makers cannot accurately understand the risk or threat posed to the business and how the deferral will impact the organization. Without adequate assessments, it becomes more difficult to prioritize this need over other competing demands of the business.

The key to a compelling business justification is to highlight aspects of infrastructure and equipment such as useful life and the infrastructure's capability to safely, efficiently, and effectively execute the business, technical, and functional needs to gain approval for renewal. The infrastructure request must include the appropriate business need, clearly articulating why the investment is essential. A comprehensive business, technical, and financial justification must always accompany any infrastructure, equipment update, replacement, or upgrade.

## POOR PRIORITIZATION OF CAPITAL BUDGETS

Most businesses establish capital budgets for investing in infrastructure and equipment. Subsequently, for various reasons, the capital budgets are then potentially diverted to other business needs due to unclear prioritization.

An agreed-upon rating/prioritization process and methodology will ensure the budget allocation is based on the prioritized need instead of a random distribution. In the absence of prioritization, the budget allocation would be random, and much-needed

infrastructure and equipment investments might be re-allocated to some other need that is not as critical. To effectively gain a sufficient capital budget allocation, the facility operations teams must prioritize the infrastructure needs appropriately.

## CONCLUSION

Capital replacements, upgrades, and retrofits are primarily dependent on the business strategy of the organization. However, occupant safety and well-being must always take precedence over the business goal. Establishing and implementing the mitigation strategies discussed above will enable the organization to be aware of the infrastructure needs and then allocate the budgets and implement replacements in a streamlined manner.

Organizational practices vary greatly in the philosophies and methodologies utilized to establish capitalization policies. Many factors are often involved in the decision-making. However, employing best practices to identify the needs and risks posed to the organization will help decision-makers produce informed decisions. Safe workspaces, effective management, and timely recapitalization of infrastructure and facility equipment are the management's fiduciary responsibility. Their ability to see "beyond the lens of their own eyes" is critical to the long-term success of any facility and its occupants' safety.

## REFERENCES

1. APPA Body of Knowledge (BOK), June 3, 2021. *Capital renewal and deferred maintenance*. <https://www.appa.org/bok/capital-renewal-and-deferred-maintenance/#estimating-capital-renewal/deferred-maintenance>
2. National Research Council 1990. *Committing to the Cost of Ownership: Maintenance and Repair of Public Buildings*. Washington, DC: The National Academies Press. <https://doi.org/10.17226/9807>



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