



Dimes vs. Dollars

A compelling look at the true costs—and substantial savings—associated with regular preventive maintenance



by Tim Cool

HAVE YOU EVER HEARD the age-old adage, “The cobbler’s children have no shoes”? It is an illustration of a person whose life is dedicated to designing and making shoes but does not have

the time or energy to make shoes for his own children. It is a sad but true reality for many professions and walks of life. We have so many “critical” issues pulling at us every day that we often fail to address the other important issues staring us straight in the face.

ENTITLED OR ENTRUSTED

I recently was moved by a message by Dr. Leighton Ford (brother-in-law of Dr. Billy Graham and founder of Leighton Ford Ministries in Charlotte, N.C.) at the dedication of a new facility for a church in Charlotte. He challenged his listeners with

the concept of "Entitled vs. Entrusted." He asked if we were entitled or entrusted with our possessions. Was the building that was being dedicated something that body of believers was entitled to or was it something that God had entrusted to them—to steward and to use as a tool for ministry? He makes a strong point that all of these buildings and the land they sit on are God's. They do not belong to this church or that church, but to God. That has really made me ponder the way we steward these tools that God has blessed us with. Do we really treat them as if they were God's buildings and property?

WHOSE BUILDINGS ARE THESE?

In the church world, one important issue that oftentimes goes unaddressed on a regular basis is the preventive maintenance of the facilities with which God has blessed us and asked us to steward. Over my 23-year career of planning and building churches, ministry and educational facilities, I have witnessed firsthand the use, abuse and misuse of ministry facilities. I have seen churches spend millions of dollars on new facilities and then neglect to change the HVAC filters, repair leaks, change light bulbs, caulk annually as required and so on. This is similar to collecting the offering during our worship service and taking 10%–20% of the monies out of the offering plate or basket and setting it on fire. We would all agree that that kind of action would be ridiculous and obscene. "We would never do that ... that is God's money." I ask, "Who provided the funds to build your facilities?" We all know the answer: God provided the resources. It was and is His money. And they are His buildings. Yet, we too often act irresponsibly with these assets.

Many church members take better care of their homes, boats, cars, motorcycles and even their pets than they do their ministry facilities. Is this acceptable to you? It is not to me, and I suggest that the church (big "C") wake up, take notice and do something about it. God holds each of us responsible and accountable for what we do and how we handle every resource entrusted to us.

We have always heard that our ministry facility is the "house of God." Yet, in many cases we assume that we can maintain this "house" like we might maintain a residential rental property. In reality, however, ministry facilities are large, complex commercial buildings with sophisticated systems that require regular maintenance. Not just repairs—but routine, regular, preventive maintenance.

Shocking are the statistics and analysis done in the secular markets with facility management services such as hospitals, manufacturing plants, retail, office and government buildings. Unfortunately, as with many other issues of relevance, the church is trailing the leading edge of thought leaders and forward thinkers by at least 10–15 years, which means that our buildings may be in even more need of maintenance and repair than we know.

TWO METHODOLOGIES OF FACILITY MAINTENANCE

There are two basic forms of facility maintenance:

1. **Preventive** (with a sub component of predictive)
2. **Reactive** (also referred to as corrective or deferred)

According to Wikipedia, preventive maintenance has the following meaning:

The care and servicing by personnel for the purpose of maintaining equipment and facilities in satisfactory operating condition by providing for systematic inspection, detection, and correction of incipient failures either before they occur or before they develop into major defects. Maintenance, including tests,

measurements, adjustments, and parts replacement, performed specifically to prevent faults from occurring.

Preventive maintenance refers to a series of actions that are performed on either a time-based schedule or a schedule based on "run-time" or use. These actions are designed to detect, preclude, or mitigate degradation of a system or facility. The ultimate goal of a preventive maintenance process is to minimize deterioration and loss of use of a facility and its systems to sustain or extend the useful life of these items. This, in turn, saves dollars that can be reallocated to other ministry initiatives.

On the other hand, reactive maintenance (sometimes referred to as corrective maintenance) is just what its name implies. The method involves waiting until there is a problem and then reacting to correct the problem. This would be like driving your car and not changing the oil until the engine seizes up. What was the old FRAM oil filter commercial... "Pay me now or pay me later"? We would all agree that doing that to our cars is unthinkable and is a waste of money. The cost of replacing our car's engine far exceeds the cost of regular oil changes. Yet, when was the last time you had the motors of your HVAC system lubricated or the coils cleaned?

To keep it simple:

- Preventive maintenance is conducted to keep systems and facilities working and to extend their useful life.
- Reactive/corrective maintenance, also called "repair," is conducted to get equipment working again once it stops functioning.

He [Dr. Leighton Ford] makes a strong point that all of these buildings and the land they sit on are God's. They do not belong to this church or that church, but to God.

History tells us that it was the U.S. Navy that pioneered preventive maintenance as a means to increase the reliability of its vessels. Since that time, many other industries and real property holding owners have seen the wisdom in preventive maintenance. Here is the reality; when we allocate and expend the necessary resources on preventive maintenance as recommended by the manufacturers and designers, we increase efficiency and reliability and extend "life" expectancy. Beyond this, there is a significant cost savings when a program of preventive maintenance is followed. Studies indicate that this savings can amount to 15% to almost 20%.

Another study revealed that a building—any building—will deteriorate at a rate of 1%–2% per year; however, if the preventive maintenance is not performed as it should be, the rate of deterioration is compounded to a factor closer to 5% per year. Preventive maintenance, like lubrication and filter changes, will generally allow the systems and equipment to run more efficiently and result in even more dollar savings. While preventive maintenance cannot guarantee that you will never experience a catastrophic equipment or system failure, it will decrease the number of failures, down time and distractions of the ministry staff and volunteers.

A recent study commissioned by the South Carolina Public Colleges and Universities found that their "deferred maintenance" (meaning items they elected not to do preventive maintenance on but rather wait until it needed corrective maintenance) approach had put them in a financial deficit of over \$600 million. The study cited two main issues for the deferred maintenance deficit:

1. Under funding for routine maintenance, which caused neglect that allowed minor repair work to evolve into more serious conditions.
2. The failure to take care of major repair and/or restore facilities or building components that have reached the end of their useful life.

Summary

- An important issue that oftentimes goes unaddressed on a regular basis is the preventive maintenance of the facilities with which God has blessed us and asked us to steward.
- There are two basic forms of facility maintenance:
 1. Preventive maintenance is conducted to keep systems and facilities working and to extend their useful life.
 2. Reactive/corrective maintenance, also called "repair," is conducted to get equipment working again once it stops functioning.
- While preventive maintenance cannot guarantee that you will never experience a catastrophic equipment or system failure, it will decrease the number of failures, down time, and distractions of the ministry staff and volunteers.
- A recent study commissioned by the South Carolina Public Colleges and Universities found that a "deferred maintenance" approach had put them in a financial deficit of over \$600 million.

- Several factors contribute to a deferred maintenance deficit:
 1. Rate of inflation.
 2. Rate of overall plant deterioration.
 3. Rate of deferred maintenance deterioration.
 4. Lack of sufficient funds for maintenance.
- Over time, "deferred maintenance" begins to leave its mark. Not only is there additional cost when corrective maintenance must be done, studies have shown that people often make up their minds to attend or return to a church based on what they see. If the condition of your facilities is a detriment to your church's first impression, preventive maintenance is essential.

Author

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They then compared the current study to one done a decade earlier and attributed several factors to the deferred maintenance deficit:

1. **The rate of inflation.** A deficiency will cost more to repair next year than it would this year due to increases in labor and material costs, as well as the further overall deterioration.
2. **The rate of overall plant deterioration.** Facilities are in a constant state of deterioration. While identified problems are being corrected, other problems occur.
3. **The rate of deferred maintenance deterioration.** As stated above, facilities deteriorate at an average of 1%–2% per year. When maintenance is

deferred, the rate of deterioration increases to about 5% per year (Eric Melvin, *Plan, Predict, Prevent in Public: How to Reinvent in Public Buildings*, American Public Works Association, Chicago, 1992). NOTE: That is 2–3 times the average rate of deterioration.

4. **The lack of sufficient funds for maintenance.** During periods of budget cuts and tight funds, routine maintenance competes for what appears to be more urgent needs of staff, missions giving and ministry operation costs or even new construction projects. Personally, it is painful for me to watch a church or organization enter into a new construction project while being poor stewards of the resources they have already been blessed with by God.

STEWARDSHIP VS. CARELESSNESS

Another important concern is the visible consequences of neglecting maintenance items, which may not always be apparent for a number of years. Once the signs of deterioration become visible the repair costs will likely be far greater than the cost of preventive maintenance had it not been deferred in favor of short-term savings.

Let me give you a real-life example. While most people do not realize this, exterior caulking of windows, valleys, step flashing and the like should be looked at and redone every year or so. A tube of good quality caulk will cost about \$2-\$3 per tube. To re-caulk a 20,000-square-foot facility, you might need 10-15 tubes and it might take a person 8-16 hours maximum to perform this work. If that person is being paid \$20/hour, the total cost of this work may only be, on the high end, around \$365.

I am aware of a church that did not do this kind of preventive maintenance, and within a matter of ten years, they had to replace most of their windows and sills due to rot and had to make other remedial repairs in attic space due to rot and mold. The cost for this corrective maintenance was in excess of \$20,000. If the preventive maintenance had been performed, the costs would have only been approximately \$3,650 (\$365/year x 10 years). This represents a difference of \$16,350 that went to corrective maintenance instead of to a ministry initiative. Is that good stewardship?

We think we are being good stewards because we are investing the financial resources with which God has blessed us by investing primarily in ministry-related initiatives (people and programs). The example above, however, is a clear representation that that line of thinking actually has robbed the ministry from fulfilling

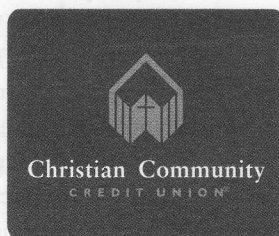
its vision and goal. That amount of money could have paid a portion of another staff person, or paid for a missions trip, or paid down existing debt, or provided scholarships to kids going to summer camps ... and the list goes on and on and on. While it may feel like a lot of ongoing costs to perform preventive maintenance, performing these functions and duties is good stewardship of the church's facilities and allows the church to fulfill its mission; thus, it is better to spend "dimes vs. dollars."

Let me give you another example that will look at both the savings of preventive maintenance and also operational cost savings—the ever-desirable "double whammy." This example will be exploring one of the most expensive systems in your building, and one that can save you the greatest amount in life cycle cost and operational savings: the heating, ventilation, and air conditioning (HVAC) system.

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So, if saved money does not get your attention to implement a preventive maintenance program, then the furtherance of the gospel should. Although the investment might appear high, it will generate significant cost savings in the long run, which in turn frees up funds to be used for ministry. Now that is exciting to me.

"I have not spent any money on preventive maintenance for over two years" was a statement shared with me from an HVAC service company about a building owner. The building owner was actually very proud of this fact and was bragging about it; so, the service representative asked if he could tour the roof to do a cursory inspection of the units. Upon arriving on the roof and opening up the service door of the 10-ton unit, the service representative discovered that the filter had never been changed and was so filthy that it looked like a "shag rug." After removing the filter (if you can call it that after it had been transformed to a shag rug), he found a thick layer of filth on the coil. With these two layers of crud and filth, there was virtually no air flowing through the unit. To give you a sense of what this means, consider that you are getting ready to drive your car on a 90-degree day and you place a piece of cardboard in front of your radiator. What do you think would happen to your engine? RIGHT, it would overheat. The same thing applies to your HVAC unit. In this case, they replaced the filter and cleaned the coils, but the unit was so badly worn that it still failed one month later.

In this case, the service representative told me that the cost of the preventive maintenance would have been \$500–\$750 per year, or \$1,000–\$1,500 for the two-year period. Instead, the owner paid about \$15,000 to replace a two-year old unit. This does not seem like very good stewardship, and he was not bragging anymore.

While we are talking about stewardship, let's think about your current budget and cash flow issues. Is your budget as strong as it was two years ago? Are you looking for means and methods to cut your budget, reduce costs, scale back on staffing, and overall are you trying to survive the economic down turn? If you are not, then feel free to skip to the next section, but if you are, like most churches, then read on.

According to all the studies and reports I have seen, staffing is the largest component of most church budgets, followed by facilities expenses. When you look at a \$40,000-a-year staff person and add the full labor burden, fringes, IT support, clerical support, office space, vacation time, cell phones, etc., they could actually cost you 30%–50% above the base salary. What if you could outsource the facilities management efforts and support and either reduce or augment your staffing requirements for a fraction of the cost? Would that make good sense? Would that be good stewardship?

ENERGY SAVINGS EQUALS GOOD STEWARDSHIP

In addition to the extended life of the HVAC unit (generally you can obtain 20% longer useful life by implementing regular maintenance, which means you have reduced your "ownership cost") there is significant energy savings. If your facility is completely powered by electricity, your HVAC load as a percentage of the total utility cost is 50%–75%. According to the American Society of Heating, Refrigerating, and Air Conditioning Engineers

(www.ashrae.org), if you do not provide regular cleaning of your condensing coils (the coils on the exterior units), you will increase your energy consumption by as much as 39%. In addition, if you do not routinely clean the evaporator coil (the coil on the inside units) you will consume an additional 19% of energy. That is a ton (quite literally) of power. Let us look at how much. If you have a 20,000-square-foot facility and your average annual electric bills are \$1.50/square foot, you would have bills totaling \$30,000. If we take 60% of that as being the HVAC load, we could allocate \$18,000 for the HVAC consumption. If we then look at what the added cost could be for poor maintenance practice and reduce the 55% from above (36% + 19%) to 30%, that would be an added utility cost of \$5,400 per year in energy costs. That does not take into account the strong likelihood that this drain on the system will also reduce the effective life of the units and increase repairs and service calls. If the filters had been changed and the coils cleaned two times a year (which is the minimum), you would have costs of about \$1,000 a year, which still nets a savings of about \$4,400 per year that is directly available for ministry initiative—which is the core purpose for the existence of the church.

FIRST IMPRESSIONS ... ONLY ONE SHOT

Being wise stewards of the resources entrusted to us is paramount, however, remember that first, nothing we do is ever simply about us and, second, everything we do or do not do has eternal consequences. Whether you like it or not, first impressions are important. Studies have shown that people often make up their minds to attend or return to a church based on what they see. This past spring I was driving with the family after church to meet friends for an Easter afternoon lunch. We passed a church that had put an Easter message on their roadside sign with attached balloons to draw attention to the sign, but the weeds were so high you could barely read the sign, and the parking lot had not been cleaned up in months.

The message of their sign was incongruent with the look of their property.


Over time, "deferred maintenance" begins to leave its mark. What do you think your guests think when they enter your parking lot, walk toward the building, and step inside the facility? Will the "house of God" be an appealing place? Will guests want to return? Will they be confident that their children will be in a safe, clean space? For those of us who attend church on a regular basis, because we are grounded in our faith and in the ministries we serve, we tend to overlook the visible issues; however, what about the first-time guest who may be making a church-home decision? Do you think they will notice the duct tape patching the carpet in the foyer? Will they notice the odor in the restrooms and nursery area? Will they see the cracks in the parking lot and sidewalks or the pond that forms on rainy days? When was the

last time you walked through your facility with a guest's perspective?

In his book, *First Impressions*, Mark Waltz, pastor of connection at Granger Community Church in Granger, Indiana, addresses what it may be like to be a guest in our churches and how the first impression may not always be the best. In addition, the first impression may be the only chance we have to impact their lives. He writes, "When your guests are distracted from the real purpose of their visit to your church, you'll have a difficult time re-engaging them. In order for people to see Jesus, potential distractions must be identified and eliminated."

Have you ever considered that the condition of your buildings could affect your ability to engage and minister to people? You may be thinking, "The gospel is compelling enough, the buildings are only a

tool and we need to focus more on delivering the gospel message than on worrying about our buildings." Whether we like to admit it or not, first-time guests will consider all elements of their experience at your church, including the facilities, and will judge you by all of the elements of their experience. This may not be right, but to close a blind eye to the overall experience and impact of your facilities is just foolish. We live in a consumer-minded world, whether we like it or not, and many—if not all—of your guests will determine their experiences from all of these elements.

So, if saved money does not get your attention to implement a preventive maintenance program, then the furtherance of the gospel should. Although the investment might appear high, it will generate significant cost savings in the long run, which in turn frees up funds to be used for ministry. Now that is exciting to me. 

Course Offerings

Seminar I A: May 31-June 3, 2011:

Property Management; Theology of Stewardship; Information Management; Communication and Marketing; UM Polity and Issues of Diversity (requirement for certification by UMACBA)

Seminar I B: June 6-10, 2011:

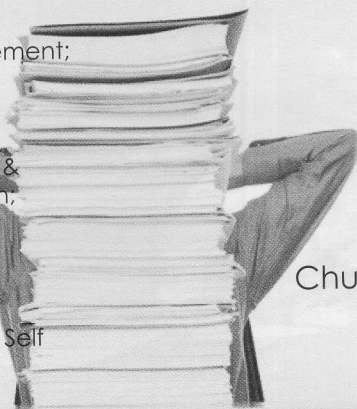
Personnel/Human Resource Management; Office Management; Staff Development; Congregational Leadership

Seminar II A: June 12-16, 2011:

Legal & Tax Matters; Theology & Ethics of Church Administration; Christian Perspective & Theology of Church

Seminar II B: June 19-23, 2010:

Strategic Planning; Financial Management; Stewardship of Self



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