



## The Four Types of Maintenance

When it comes to managing one's assets, maintenance plays an important role in preserving these assets. Whether it's a home, an automobile, a heating and air-conditioning unit, or a driveway, to mention just a few assets a person or a business may own, they all require maintenance.

There are basically four types of maintenance beginning with unscheduled maintenance, followed by planned A.K.A. preventive maintenance, predictive maintenance, and finally, deferred maintenance. Each type of maintenance includes a cost, with unscheduled maintenance considered "pay me now" versus "pay me later" with deferred costs.

Unscheduled is exactly that—unscheduled and not planned for maintenance. An example of this could be a fan belt breaking, or a flat tire requiring immediate attention and something one cannot simply defer to a later time.

This unplanned maintenance usually comes with a premium when completing the repair because the labor, parts, and material are needed as soon as possible so the owner or the facility group does not have time to shop around for the best price. It usually requires immediate attention and solution. This can be very costly if the unscheduled maintenance occurs after normal working hours or on a weekend.

To strive to avoid unscheduled maintenance of mechanical and electrical system equipment, as well as property assets such as a parking lots or sidewalks, there are manual maintenance plans or computerized maintenance management software that schedules these calendar events based on regular routine maintenance assignments that are planned monthly, quarterly, semi-annually, and/or annually.

Often called "preventive" maintenance, one can never prevent an equipment failure and so it is best described



as "planned" maintenance based on an equipment manufacturer's recommendation for routine maintenance or based on historical data. The Diocese of Cleveland follows a planned maintenance schedule with much of its assets based on available funds and it is these available funds that determine how much money can be invested in planned maintenance versus deferring maintenance to a later time or different year.

Planned maintenance is usually arranged via a maintenance work order system that spans the entire year, with specific pieces of equipment receiving service based on a specific schedule. We wrote about what a planned/preventive maintenance work order consisted of in the August issue of *Focus On Facilities* so we won't go into the details of this type of maintenance but, like all other maintenance types, financial commitment is required.

Unlike unscheduled maintenance this type can be financially planned based on the amount of equipment

requiring routine service and the work completed annually can be budgeted in sync with other operational costs.

### **What if you could stop problems before they happen?**

The third type of maintenance is predictive maintenance and requires “real time” input versus planned maintenance where servicing time slots are somewhat arbitrarily determined based on equipment manufacturer’s recommendations or based on past experience. One difference between planned and predictive maintenance is that planned maintenance tasks are completed when the machine is shut down and predictive maintenance activities are carried out as the machine is running in its normal mode of operation.

Predictive maintenance requires a device to provide the prediction notification. Usually this is a computer-based device such as can be found in most new cars today with a notice on the dashboard screen indicating an oil change is required at an upcoming mileage milestone, or it may be a warning that a specific tire on the automobile is in need of attention because of a lower than normal air pressure.

Another type of predictive maintenance device may be a vibration sensor on a fan shaft that will monitor the shaft wear and performance until it gets to a point that the vibration sensor will notify the facility person that the shaft should be looked at before damage begins to occur.

The fourth type of maintenance is deferred maintenance. This is the practice of postponing specific maintenance activities such as repair on a building or a major piece of heating equipment. This commitment to put off certain maintenance requirements is usually based on saving costs, meeting a budget limit, or some other business decision to avoid this maintenance cost.

In time, deferred maintenance will need to be addressed because nothing lasts forever. For the person responsible for the equipment, building, etc. the phrase “Pay me now or pay me later” rings true and if not eventually addressed the equipment can breakdown. The failure to eventually perform needed repairs could lead to asset deterioration and ultimately asset

impairment. Generally, a policy of continued deferred maintenance may result in higher energy consumption costs, asset failure resulting in more costly unscheduled repairs, potential increased safety hazards, poor service to the public, and possible costly replacement of the asset due to failure resulting from the maintenance being deferred.

How ever one manages their personal budget or a business manages its company budget, asset management must include one or more types of maintenance based on an educational decision to pay for a certain amount of planned maintenance, possible invest in the hardware to include predictive maintenance, and make the hard decision on what maintenance will be deferred until a tentative target date when these repairs will be performed while always knowing assets fail and a premium will be paid for unscheduled maintenance.

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