Deferred Maintenance

Data Gathering and Presentation

By Tim McDonald

APPA's online glossary defines deferred maintenance as the total dollar amount of existing maintenance repairs and required replacements (capital renewal) that were not accomplished when they should have been, not funded in the current fiscal year, or otherwise deferred. Related terms include deferred capital renewal, accumulated capital renewal/deferred maintenance, maintenance backlog, and asset needs index.

We often begin our discussions on the topic of deferred maintenance at a high level with some questions: How much of a deferred maintenance liability do we have? How do we present the facts so that we can receive funding to reduce deferred maintenance? What are the effects of increased deferred maintenance on our long-range planning? However, in the words of Sherlock Holmes, "It is a capital mistake to theorize before one has data. Insensibly one begins to twist facts to suit theories, instead of theories to suit facts."

But there are other questions that are just as important for us to ask: How have we gathered our deferred maintenance data? How is it tracked? What steps are we taking to ensure that our managers receive data that they can act and plan on?

As a person who does not make the high-level decisions regarding deferred maintenance, but rather one whose job it is to provide information to my supervisors at the University of Alberta, the above questions are important to me and should be important to every postsecondary institution facing the issue of deferred maintenance. In this article I will discuss some strategies and practices that can help your managers make those all-important decisions and plan effectively to manage your campus deferred maintenance.

LET'S MAKE AN INVESTMENT IN DEFERRED MAINTENANCE DATA GATHERING AND REPORTING

To obtain solid, useful deferred maintenance information from which both short-term and long-term decisions can be made requires some level of investment by the institution. There is always that fine line that managers need to tread between *investment in information* and *investment in actual remediation* of deferred maintenance problems. In some cases the funding may be coming from the same source, thus making it a tough call for managers as to how much of an investment should go toward data gathering.

There are three main investment areas when thinking of a long-term deferred maintenance tracking strategy.

1. Building evaluation studies.

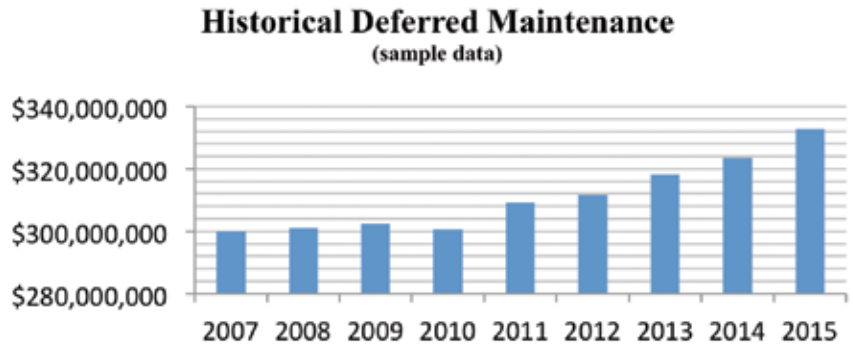
How do we know the condition of our buildings without a proper and thorough evaluation of all of their systems—structural, architectural, mechanical, or electrical? Whether via outside consultants specializing in building evaluations or via internal evaluations from staff, it is important to get a clear picture of the condition of our facilities. Core buildings should be evaluated at reasonable intervals and on occasion before or after major renovations or upgrades. If a long-term plan or rotation of building evaluations can be established, all the better.

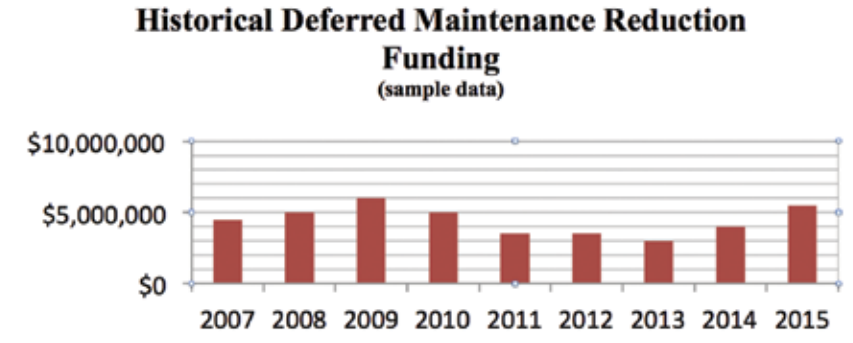
2. Deferred maintenance tracking software.

How do we organize and maintain the data we have acquired from evaluating our facilities? Some sort of specialized commercial software is often used for larger institutions with many buildings and many maintenance issues. Small institutions may use commercial software or even something as simple as a spreadsheet. Other institutions, such as those with specialized programs or primarily a research focus, may create their own internal software solutions. Regardless of which route is chosen, these institutions must invest in software and often in the accompanying computer hardware as well.

3. People to maintain data and produce reports.

Once we have valid, up-to-date data and a method for tracking it, producing reports, and generating scenarios regarding deferred maintenance, we will need someone reliable and informed to look after it. It is advantageous to have a person who knows the significance of the data they are looking after; they can give their supervisors valuable information that will be helpful in planning, and they will be able to spot particular success or trouble spots in our long-term deferred maintenance tracking. It is a wise investment to make the duties of deferred maintenance tracking a core part of an employee's job, rather than just an ancillary part of their duties or part of the duties of a high-turnover position.





LET'S ALL SPEAK THE SAME LANGUAGE

One important thing to consider in regards to the reporting and presenting of deferred maintenance data is to ensure that all stakeholders are on the same page as far as the definition and relevance of the data. There can be an assumption that everyone has the same definition of what deferred maintenance is and how it should be reported, but this is not always the case. In addition, there can be differences of opinion on what kind of data is most relevant to all parties involved: How relevant is a building's Facility Condition Index (FCI) versus actual dollar costs of deferred maintenance attributed to that building? Are certain categories of deferred maintenance deemed a higher priority than others?

It is important for those responsible for the actual deferred maintenance data to have a clear understanding of what data their managers or supervisors require on an ongoing basis. Clear, consistent information will allow the manager to make the best decisions as to how to allocate funds for deferred maintenance remediation and for making the case for increased funding when it comes to deferred maintenance. It is also important that the manager and the person to whom he or she is presenting the funding needs are on the same wavelength as far as what is considered relevant data and how various data points are defined.

LET'S BE CONSISTENT IN HOW WE TREAT DEFERRED MAINTENANCE DATA

The more that data is handled and reported in a consistent manner from year to year, the more valuable that data can be for benchmarking, long-range planning, and historical reports. Data tends to be more meaningful if you arrange it within the same parameters over time. Collecting data and running reports on it not only with the same parameters but also within a consistent time period is also helpful.

To achieve this we need to ask ourselves another series of questions: Do we run reports at the same time each year? Just before or just after a fiscal year end? Do we store this information in a secure consistent location so that it can be accessed when required by more than one person?

Data that is mined on a consistent basis often holds more clout and paints a better picture of deferred maintenance trends than a series of different or one-off reports. If your manager asks you for deferred maintenance numbers over the last five years just prior to year-end, will you be able to provide that data? Can you effectively create trend-based multi-year reports that are meaningful because you have used the same parameters to calculate your deferred maintenance values?

University of Alberta data via 2014-2015 Facilities Performance Indicators (FPI) Survey

Gross Square Footage of Facilities: **13,040,562**

Replacement Cost of Facilities: **$7,360,226,819**

Number of Buildings: **319**

Average Age of Mission-Critical Buildings: **34.7 years**

Number of Facilities and Operations Employees: **481**

Needs Index: **21.71%**

Above: University of Alberta Edmonton Clinic Health Academy.

Left: University of Alberta Arts Building.

Photos courtesy of University of Alberta.

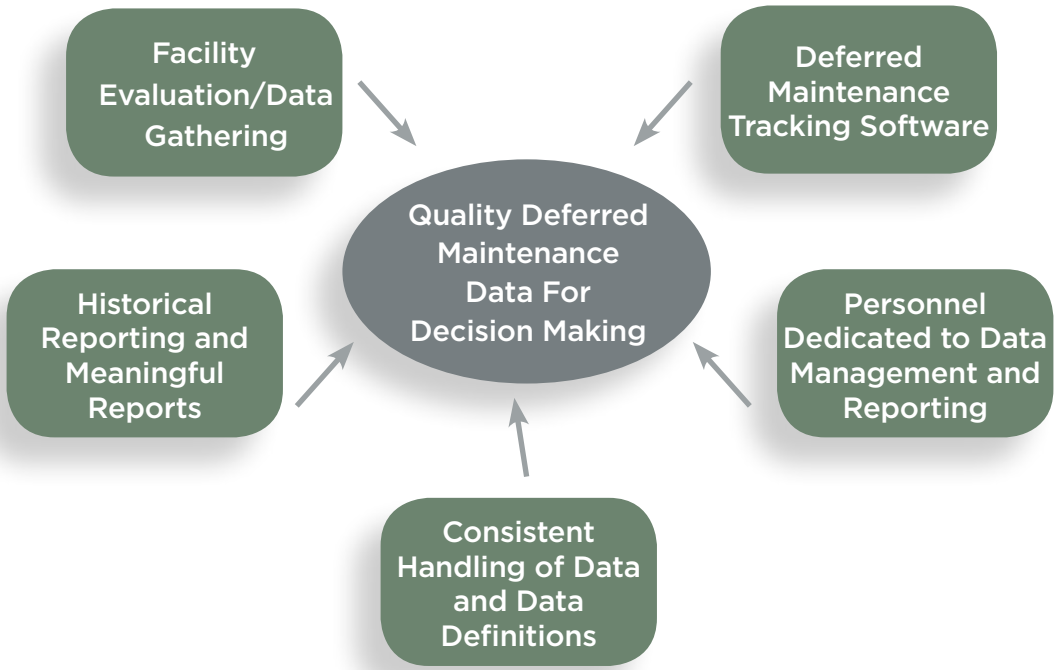
LET'S INVESTIGATE AND VALIDATE OUR DEFERRED MAINTENANCE DATA

As you analyze and examine your deferred maintenance data over time, sooner or later numbers will crop up that don't seem to make sense or are unexpected. I recall taking an organic chemistry lab class years ago in which the instructor told the class that it is okay to get results you do not expect as long as you can document why you ended up with those results. Deferred maintenance tracking is similar. There is almost always a valid reason why the numbers are not what you thought or hoped they would be, and the reasons may be out of your control. For example, let's look at the FCI, a standard by which we look at overall building condition.

This index represents the current replacement value of a building *divided by* the building's estimated deferred maintenance. We often focus on the maintenance issues and the calculated FCI percentage, but what happens if adjustments are made to the current replacement value of the given building? The FCI will be changed without any real change to the condition of the building or the deferred maintenance estimates. There are a number of measures you can take that can make these kinds of data investigations easier.

Run a full set of your favored reports before and after any potential mass data changes. Examples of ideal times for this would be before and then after buildings have had condition assessments; before and after the fiscal year ends, when elements such as inflation may be applied; and at set points during the year (an example of this may be quarterly reports). If

Decision-Making Flowchart



you clearly understand all the things that can affect your data, it will make any investigation into that data easier.

Deferred maintenance data can be a big picture (total deferred maintenance data for all of your facilities) separated into many small pictures (deferred maintenance for each of your facilities) and should be looked at as such. You can certainly have a trend of increasing total deferred maintenance for your institution due to increasing age or cost inflation and still have some great individual building success stories as far as deferred maintenance reduction is concerned. It is important to search out and document these successes so they do not get lost in the big picture.

LET'S GIVE OUR SUPERVISORS THE INFORMATION THEY NEED TO MAKE GOOD DECISIONS

Often the people who make decisions based on deferred maintenance data are not those handling the data and providing the reports based on that data. Decisions based on data are only as good as the quality and clarity of that data. Decision makers are more than ever so busy that they need to be able to rely on their staff to provide clear and concise data. Providing too much data can be nearly as bad as not providing enough.

I tend to follow a habit of providing my supervisors only the data and reports they need to answer the question posed or the request they have made, but at the same time letting them know that I can provide more data or delve deeper if requested. Handing them a huge mass of data to answer one question can do more harm than good and can cloud an issue.

You can still feel free to inform supervisors of small data points or changes you feel may be of interest to them even if they do not request it. You do not want to inundate them with data and reports, but in most cases they will appreciate a heads-up regarding deferred maintenance data whether it is of the "good news" or "bad news" variety.

Be responsive to your supervisor's requests. Try to have your data organized in such a fashion that you can respond quickly to deferred maintenance data requests. If you are having problems in this area due to workload or other responsibilities, let your supervisor know and get clear directions as to what is to take precedence.

If you follow the majority of the points listed above, the net result will be solid deferred maintenance data arranged and accessed in an efficient manner and presented to the decision makers in a way that will allow them to make good decisions. In the long run, investments in data gathering, data storage, reporting, and people to look after and process the data will be seen as a worthy investment. You will indeed have facts to base theories on rather than insufficient data that can be twisted to suit theories.

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