

What is MUSH and Why does it Matter?

Municipalities, Universities, Schools, and Hospitals

In the architectural world, MUSH is a group of 4 institutional sectors that include Municipalities, Universities, Schools, and Hospitals. The MUSH sector represents a very large portion of our country's facilities, possibly numbering in the millions. Most of us know these public sector buildings as being central to our corporate life.

These MUSH facilities represent a unique challenge to our cultural identity, and they represent a very large risk based on years of neglect. Since 1992, commercial properties throughout the country have been required to have a property condition checkup every time they are sold or refinanced. Every year, approximately 250,000 commercial properties go through a check-up called a PCA, Property Condition Assessment. As a result, the vast majority of our commercial properties are in good condition because they have been required by lenders to maintain the status quo through a series of immediate and long-term reserves that fund the maintenance of these buildings. The average commercial property is refinanced every 7 -10 years, and therefore is regularly assessed and required to reinvest capital into priority investments.

However, the MUSH facilities have no leveraged oversight for their maintenance and management. The only way for MUSH facilities to get a check-up is for facility managers to engage in capital planning activities that will shine a light on conditions and prioritize capital investments. Funds must come from public sources and must be justified by credible, defensible data about condition and costs. Circa 1990, capital planning consultants started creating software, based on uniform costing, that has allowed MUSH sector facility managers to piece together funding priorities.

Municipalities

- It has been my experience that many municipalities don't have a strong idea about how many buildings are in their portfolio. Salt Lake City put out a request for help this month for a city-wide review of their facilities. They reported that they have 101 facilities with an average age of 36 years.
- A few years ago, NYC embarked on an asset inventory of their facilities that included all of the NYC airports, tunnels, bridges, world trade towers, regional trains, and regional communications facilities. Managing such a large portfolio of facilities is a massive undertaking.
- Municipalities of all sizes, throughout the country, are embarking on FCA's to try to manage their facilities. They are often managing a combination of administrative, service, utility, and park system facilities.

Universities and Colleges

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- In 2022, the Universities in Illinois, Houston, NYC, Minnesota, were among a larger group of universities that embarked on FCAs to try to understand the condition of their facilities. For instance, the University of Minnesota has over 600 school facilities to manage. Campuses throughout the state are competing for state funding to maintain their facilities and the state has mandated that the school facilities overhaul their energy use from steam to electricity, in order to meet their states energy policies and priorities. These competing priorities puts additional pressure on university facilities to meet both the current capital investment demands as well as a comprehensive upgrade of energy-based systems. Roth IAMS is currently working with the University of Minnesota to review all of their campus facilities.

K-12 Schools

- Baltimore school system is an example of a complex portfolio of K-12 facilities. The Baltimore school system has 37,500 students and 5,400 teaching staff. Their school portfolio included 54 schools including 33 elementary, 9 middle schools, 9 high schools, 1 technical, 1 special needs, 3 admin buildings, 43 temporary classroom buildings, 6.3 million SF, and 1,920 Acres. The facility staff for the Baltimore schools include 99 full time staff. On a yearly basis, Baltimore schools report 22,000 Work Orders, with 20,600 Work Orders completed per year.
- There are roughly 200,000 public K-12 Schools. The average school is rated D+ in condition and needs approximately \$4.5 million dollars to restore these schools to good condition.

Hospitals

- Hospitals have changed dramatically over the past 20 years, moving away from centralized facilities in favor of scattered out-patient, urgent care facilities. Large hospitals have unique complexity and require a great deal of centralized facility management. However, now that healthcare is being decentralized, there is a growing problem if managing a portfolio of facilities in a variety of locations and neighborhoods.

So, there you have it. MUSH facilities are a very real grouping of institutional buildings that have generally been overlooked due to a variety of reasons. The primary reason

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they have been overlooked is that they are dependent on benevolent funding from public departments. They have also grown rapidly throughout the last century, often without foresight of how much capital investment is necessary to maintain and manage these facilities. Public, institutional facilities are also much more susceptible to political winds of investment and inattention. These facilities have typically been managed by individuals armed with institutional knowledge that often gets lost, without being passed down to others, as facility staff and managers retire.

Today's FCA capital planning is software-based and is managed by industry professionals, including architects and engineers. Modern FCAs allow credible and defensible data to be centrally stored and managed in capital planning and asset management software so that funding priorities can be assigned and funded with greater efficiency and effectiveness.

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Roth IAMS

Roth IAMS is on a mission to take care of these facilities and help solve the world's deferred capital renewal and maintenance backlog crisis. We are collaborating with organizations to enable them to make better decisions within their unique organizational context on where and how to invest their limited capital and maintenance dollars to create a better built environment.