

Leveraging Tenant Empowerment Technology to Reduce Your Building's Operating Expenses

In July 2020, at the BOMA International conference, BOMA president Henry Chamberlain made a statement of what has become the general expectation in the industry: "We expect things to be getting back to normal...in 2022." He was speaking not only about the formal occupancy defined by leasing activity, which forms the core of the industry, but about physical occupancy. As any commercial property manager knows, the number of occupants present on a given day is now far below normal and even farther below full capacity, even as cities and towns slowly reopen amidst the lingering COVID-19 pandemic. Chamberlain's remarks underscore the reality that this is likely to remain true for quite some time, leaving managers to grapple with how to optimize their operations for a smaller number of end users.

During the first few months of the pandemic, some commercial buildings have used existing tools creatively to understand day-to-day shifts in occupancy and control expenses, all while serving the few tenant occupants who either remained in the office or started returning as soon as they were able. Their experience can serve as a model for others, forming a basic roadmap that others can alter to suit the unique needs of their properties. This roadmap has three essential steps: **Understanding Physical Occupancy, Giving Tenants More Control, and Maximizing Savings**.

UNDERSTANDING PHYSICAL OCCUPANCY

The first key to efficient operations during low occupancy lies in getting the full picture of physical occupancy. How many people are coming to the building? When are they there? And where within the building are they going?

As the pandemic-induced lockdowns took effect in the spring of 2020, the dip in occupancy was obvious. And as office workers slowly began filtering in, most building management teams succeeded in keeping in close touch with their customers, making sure they were fully supported in their re-occupancy.

As occupiers returned, many of them did so piecemeal, with skeleton crews on abbreviated schedules. Some have come back in shifts, which meant fewer occupants at a given time, but also more total time with at least some people in the office. These nuances are difficult to keep in mind without access to the kind of timely occupancy data that is available from modern software platforms, like [Genea's Access Control portal](#).

The impact of the lockdowns is starkly visible. The "normal" daily occupancy of over 600 people in early March dropped to fewer than 200 in the space of a week. Even by August, physical occupancy was closer to lockdown levels than to the time before, though patterns like lower attendance on Fridays are still visible.

More important than total physical occupancy, however, is floor-or suite-level occupancy. Today's more sophisticated access control hardware systems allow for essentially real-time tracking at this level. But even absent this, periodically cross-checking building entry data with tenant rosters gives a view into which spaces are being used and how long for.

Even with only this information, building managers can make BMS adjustments to HVAC schedules to account for spaces that remain completely empty for long periods of time. As will be shown, however, there is an easier way to achieve real savings by avoiding unnecessary use of HVAC in unoccupied zones.

GIVING TENANTS MORE CONTROL

Tenants have always needed exceptions to standard building operating hours, whether that means getting an early-morning start on an all-hands meeting or hosting an in-suite special event in the evening or on a weekend. Genea's automated [Overtime HVAC solution](#) has made this easier for tenants and building staff. Rather than embarking on a multi-step process to request that property management manually enable unscheduled heating or cooling, it provides authorized tenants with a simple, intuitive way to submit after-hours HVAC and lighting requests directly from their smartphones. Genea's [integrations with BMS](#) and billing systems mean that both the execution and accounting for these requests are enabled accurately and automatically. In most cases, management does not even need to be onsite.

In the past, some clients have taken this a step further. They eliminated regular HVAC hours on Saturdays and certain holidays, making them days on which tenants could get HVAC service on an as-needed basis. As lockdowns began, many of these clients realized that, at least in the short term, they could convert the entire tenant HVAC schedule to the on-demand model, thus reducing HVAC system operating time and expense.

In practice, most of these clients have run an abbreviated schedule to circulate air, followed by an on-demand schedule for some or all of the tenant occupied floors. And of course a minimum load is always required for chillers and central plants, not to mention lobbies. But otherwise, with just a few changes in the BMS configuration, Genea's Overtime HVAC product has become an "on-demand" product. The results have been dramatic, if predictable. During Q2 of 2020, a sample of five client buildings in Genea's portfolio saw tenants request on-demand HVAC for only 26 percent of what had been normal operating floor-hours. ([See Figure 1](#)). Despite running at much lower capacity, every tenant got exactly as much climate-controlled air as required, all without manual effort from the building staff.

MAXIMIZING SAVINGS

As might be expected, these same buildings also experienced savings in energy expenses. But how much? How did their savings compare to other, similar buildings? After all, as noted already, property managers tend to be in tune with what is happening at their buildings. They would be expected to conserve energy by shutting off HVAC service to empty floors. Moreover, they would make sure tenants with employees at their buildings would have service, albeit that it might require manual effort. Genea's extensive client portfolio offers the chance to test this scenario against the on-demand case. While many client buildings moved to the on-demand HVAC model by April 2020, many others did not. Thus it is possible to compare several like buildings to determine which model has generated more savings thus far.

THE FINDINGS

As summarized in [Figure 2](#), it was confirmed that although savvy property managers realized savings in energy costs regardless of the HVAC model, those savings were greater at buildings that shifted on-demand. The analysis shows the average year-over-year energy savings from Q2 2020 versus Q2 2019 for a group of 5 "on-demand" client buildings, compared to 6 similar control buildings that did not move to the on-demand model. Savings are presented in both terms of consumption (kWh) and cost. The chart shows that on-demand buildings saw roughly double the savings when compared to control buildings.

The buildings selected for this analysis are located in one of three warm-weather markets: Atlanta, Houston or Southern California, where it is typical for commercial buildings to require air conditioning throughout the spring months. The properties in the control group were selected to mirror the size and composition of the on-demand group as closely as possible, given available data within Genea's client portfolio ([See Figure 3](#)).

A closer look reveals the nuance in the story. Of the 5 on-demand buildings, 4 of them reduced consumption more than any of the control buildings. But two of the control buildings achieved consumption reductions around 20 percent, placing them close to the on-demand group. Further, one of the on-demand buildings actually experienced an increase in energy costs due to rate increases from the local utility provider.

Still, as visible in [Figure 4](#), the general pattern holds: Buildings that converted to an on-demand HVAC model saved more than those that did not. And they did so while giving tenants a user-friendly, self-service way to manage their own physical occupancy, all while avoiding the manual staff effort that would typically be required to enable HVAC requests. The only requirement was a minor change in BMS configuration.

WHERE NEXT?

Given that the commercial real estate industry expects such an extended period of low physical occupancy, there is ample opportunity for buildings to employ an on-demand HVAC model to optimize tenant service and energy savings. While most building operators have managed some energy savings, on-demand HVAC is a tremendously efficient way to maximize these savings while minimizing effort for both tenants and staff.

Building access control and management will only increase in relevance during this period as well. As tenant occupants slowly return, it will be more and more important to understand their patterns of occupancy. Observing these patterns will help building managers in ways beyond HVAC usage. For example, they can adjust their operating plans to account for things like consumable paper products and in-building security.

There may also be applications for building health and wellness. More than ever there are now stronger reasons for controlling access to a broader range of commercial buildings. Managers will want to minimize liability by limiting density and restricting access to occupants or visitors showing signs of illness. Many will want to offer touch-free building entry while still maintaining security. Some may even explore contact tracing through access control data. Longer term, there are likely to be permanent changes in the way commercial buildings are used. If occupiers want lower density or fewer hours, that will put pressure on existing lease structures and expense reconciliation processes to account properly for the buildings value to tenants. The more data buildings have on utilization, the better positioned they will be for these discussions.

As the industry settles in for a long recovery, there will be tremendous opportunity for innovation. But this does not necessarily mean a big investment in a confusing, unproven solution. On the contrary, simple, flexible solutions like Genea's Access Control portal and On-Demand HVAC tools give commercial real estate managers more leverage to find the right unique approach for their buildings.

WHAT CAN WE DO FOR YOU?

With property management teams getting more and more on their plates every quarter, technology that can both eliminate manual tasks while bringing quantifiable value to the building's bottom line can make a significant difference. We'd love to discuss your building to see if our software can drive value for your team.