



The Post Pandemic Office: Perspectives on the New Normal

Webinar Questions and Answers

Cities with their dense populations, crowded public transportation systems and busy high-rise office buildings, present many challenges in the prevention of the spread of the COVID-19. As Governors across the country prepare for the return to the workplace, employers and building owners have embarked on plans for re-opening the office.

On May 5, 2020, Zetlin & De Chiara LLP hosted a webinar that discussed the Post Pandemic Office. The expert panel including, Mitch Simpler, Jaros, Baum & Bolles Andrew Demming-Gardiner & Theobald, Joanna Frank-Center for Active Design, Christopher Sharples-SHoP Architects, and moderated by Z&D Partner Tara Mulrooney, offered its perspectives on what steps should be taken immediately and how offices might change in the future.

To watch a recording of the webinar, click [here](#).

To review the key information from the discussion, click [here](#).

The following are responses from our panel of industry experts to additional questions posed by participants attending the webinar.



Mitch Simpler-
Jaros, Baum & Bolles

**Mitch Simpler, Partner, Managing Partner Emeritus,
Jaros, Baum & Bolles**

1. What are the benefits of active ventilation...negative air pressure?

The benefits of active ventilation can be significant in that through active ventilation control you can control pressure relationships and therefore direction of airflow. In a contaminated environment, you would always attempt to have airflow from clean to dirty. This is what is done statutorily in operating rooms, clean rooms, laboratory spaces, etc. It is more difficult to perform in traditional office spaces due to the lack of the proper ducting and controls required. Some basic good practice would be to keep toilet rooms negatively pressurized relative to the surrounding occupied spaces as an example.

2. If we are increasing percentage of outside air how will this work with MERVs and new energy code in NYC?

This is easily accomplished in new construction because we can trade off the pressure drop increases by increasing surface area, and increased energy use of the increased outside air through energy recovery (both active and passive), etc. However, in existing construction, the increase in energy consumption will necessarily need to be offset with potential energy recovery technologies again, both active and passive, etc. The Energy Code does allow for an increase in energy use for increased filter efficiency.

3. Mitch mentioned the need to increase air dilution and dispersion by increasing the amount of air supplied to a particular space; notwithstanding the increased rate of outside air, would the increased turbulence resulting from increased rates of supplied air, that could potentially spread the exhaled particulates beyond the 6' radius, negate the dilution factor?

The use of dispersion and dilution as an approach to decrease particle concentrations is proven technology and the basis of design for all specialty spaces such as laboratories and the like. The recommendation is to maximize air change rates to the extent practicable understanding that most commercial spaces are in the 6 air changes per hour. As a point of reference, laboratories, depending on their use can be designed for 12 to 18 air changes per hour, operating rooms at 18 to 25+ air changes per hour and clean rooms (depending on Class) for upwards of 60 air changes per hour

4. Is UV light applications worth considering for mechanical systems?

UV-C Light disinfection in mechanical systems has been effectively used for decades and is widely utilized in healthcare facilities. The technology has been continuously evolving with corresponding increases in its efficacy in dealing with all types of microbial disinfection within air handling equipment, potable water systems, sewage treatment facilities as well as pure water systems. The most recent emphasis has been to upgrade the technology to LED in lieu of mercury vapor/low pressure sodium to improve energy performance, lamp life as well as reduce the environmental footprint associated with the older technology. More specifically, considerable research is being done to identify the most effective wave lengths (e.g., 222 vs 254 nm) which will substantially increase efficacy as a disinfection technology and yet be significantly less, if at all, harmful to humans, plants and animals.

5. Can central air in a 60's era building be retrofitted for humidification and for MERV filtering?

The answer is yes, but only to a point. Every building has a unique set of characteristics which will determine to what extent either of these technologies can be employed. The degree of humidification will most likely be determined by the construction of a building's envelope. The artificial humidification added to the building's mechanical systems will eventually migrate to the building's exterior envelope in an effort to reach the outdoors through the principal of the Law of Partial Pressures. This migration of moisture will potentially lead to condensation within the exterior walls and structure which will cause corrosion, spalling etc. This measure requires a detailed analysis on a building by building basis to determine the maximum artificial humidity levels that can be tolerated for each building as a function of outside air temperatures. It is reasonable to assume that every building can tolerate some measure of artificial humidification to help combat the effect of pathogens in the building.

The increase in MERV filter ratings can and should be determined on a system by system basis understanding that today's MERV Rated filters have significantly superior performance from a filtering efficiency perspective for the same pressure drop that these "Classic" systems assumed when they were designed and built.

6. Going back to the air filtration system... does increasing the level of MERV filter increase the energy use and require upgrading of the existing HVAC system?

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7. Does the higher air intake rate minimize efficiency of energy recovery units?

Yes, and the impact of that change needs to be studied to determine if it is significant or not.

Is there a way it can be used to our advantage for heat recovery?

Yes, particularly if the heat recovery system utilizes active technology.



8. Many of our staff use personal humidifiers at their desks for comfort. Are such devices: Advisable, as they may help to keep the localized humidity level at 40-60% (identified today as less favorable to COVID-19)

The use of local humidifiers may provide some modicum of relief in the absolute immediate area of the user from a respiratory perspective but would provide questionable benefit from a virus perspective. Again, due to the law of partial pressures, the humidity will migrate and dissipate relatively quickly in most traditional commercial office spaces, less so in a residential environment. The other issue to consider is that the use of small, portable, non-commercial humidifiers can have other issues associated with it, specifically the standing water in the humidifiers water reservoir, which if not properly cleaned and maintained, can harbor and amplify any number of potentially harmful agents.

Or not recommended due to the potential for aerosolization of virus particles?

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**Andrew Demming, Senior
Director, Gardiner & Theobald**

1. What are your thoughts on the future need for office space- reducing density in buildings and the need to increase costs through pathogen mitigation versus more remote work where employers can reduce operating costs?

In the near term, there will be a density reduction in the office. However, in the longer term (3 years or more), we will work in a similar way to pre-COVID. Both near and longer -term pathogen mitigation procedures will be put in place. Short-term will be to retrofit or take temporary measures, but as offices move, relocate or landlords develop new product they will be required to implement pathogen mitigation systems in order for them to be competitive. Costs will go up for day to day maintenance of systems plus costs of new construction for the inclusion of these newer, previously optional technologies.



Andrew Demming-
Gardiner & Theobald



2. Any comments on single directional hallways for movement through the space?

In offices with larger square footages per user this will be feasible and is a good consideration but in due time the rules will be broken. As a go back to work procedure, this will be important but will eventually transition back to normal. In new office design, consideration will be given to larger main circulation aisles and this will likely remain as a design trend for the next cycle of office projects.

3. Do you think building owners will be willing to improve egress stairs so more conducive to floor-to-floor travel? What about for Daylighting, better finishes and lighting?

This is the easiest and most cost-effective way for a landlord to reduce elevator traffic. Security is probably the biggest issue to deal with because of certain codes requiring re-entry at certain intervals of floors. Most multi floor tenants are spending money to upgrade existing fire stairs and most developers are spending money on new building designs to create fire stairs that can be used as a method of interconnecting office spaces. I think this will be widely adopted in the design and commercial office developer sector.



Christopher Sharples-
SHoP Architects

Christopher Sharples, Principal, SHoP Architects

1. What are Chris's thoughts about how companies will design/re-design collaborative spaces?

At SHoP we have talked both internally and too many of our clients and colleagues over the last several months on the future of work space. We believe the primary role of having an office is to create a space for connection and ideation. “A place for groups of various sizes and configurations to come together safely to exchange ideas and information – to make human connections based on empathy and problem solving.”

Below is an article one of the partners found that gives a positive view of things to come.

<https://www.bisnow.com/feature/uk-future-of-work/offices-are-about-to-cause-productivity-to-explode-104001>

A quote from the article:

“An increase in working from home would decrease the need for fixed desk space in an office, because the kind of quiet, internally focused work someone might once have done in the office can now be done at home. The result could be more space given over to collaborative areas where colleagues can interact. Once you had to go to an office to do your job, and employers wanted you there to keep an eye on you and make sure you were doing it. Now, it is a social space, where ideas are swapped and new ideas created, a place where loneliness is staved off.”

2. What were the names of those two technologies - for whiteboards and pinups?

Miro: is an online collaborative white boarding application. It is very user friendly and allows teams to collaborate in real time virtually utilizing a shared white board. You can write and sketch in it, post notes, down load images from the web and make presentations among other things. A beautiful feature is that you are able to see the names of people as they are actively working on the board. Like ants moving around working the problem it's a very dynamic environment. <https://miro.com/>

The Wild for BIM 360: This application allows you to work collaboratively in a 360 digital model in virtual or augmented reality. For working both in the office and remotely we believe this will be a great tool for accelerating decision making and in troubleshooting project coordination. <https://thewild.com/integrations/bim-360>

The key to having the design team , the build team , and client team embrace these kind of virtual environments is to make them fun and easy to access.

Joanna Frank, Center for Active Design

1. Is it an appreciable benefit to locate hand sanitizing stations throughout the workplace, i.e. outside restrooms and common spaces?

Evidence suggests that improved hand hygiene can reduce infectious disease transmission in the workplace. One way to positively influence hand hygiene is by providing additional opportunities for occupants to use hand sanitizer. **BOMA** recommends integrating hand sanitizing stations into highly trafficked areas and near high-touch surfaces. Some examples include, entrances/exits, lobbies, kitchens, stairwells, and fitness centers, among others. Increasing access to hand sanitizer



Joanna Frank-
Center for Active Design



within the workplace has the potential to not only improve hand hygiene, but also demonstrate company concern for employee well-being. One study based on employee survey data found that a multi-modal hand hygiene intervention, which involved strategically placing hand sanitizing stations around the workplace resulted in increased employee workplace satisfaction.² This straightforward intervention has the potential to increase employee confidence, improve hand hygiene, and put occupants at ease.

For more information on building health and COVID-19, please refer to the publication [Research to Action: Building Health for All® in the Face of COVID-19](#)

¹Zivich, P. N., Gancz, A. S., & Aiello, A. E. (2018). Effect of hand hygiene on infectious diseases in the office workplace: A systematic review. *Am Journal of Infection Control*, 46(4), 448-455.

²Arbogast, J. W., et al.(2016). Impact of a Comprehensive Workplace Hand Hygiene Program on Employer Health Care Insurance Claims and Costs

