

The Future of Cities After the Pandemic

By Patrick J. Kiger

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The Morphable Office concept by Gensler and Arup would give hybrid workers more reason to return to the office, with innovations to promote physical and psychological wellness. (Gensler)

In the midst of a lingering pandemic that has led some to question whether cities are still desirable places to live and work, designers at architecture firm Gensler and engineering, design, and consulting company Arup have dared to ponder a provocative question: In a time when many knowledge workers have grown accustomed to working remotely, could radical changes in the design of office buildings motivate them to return to the corporate workplace?

The answer they came up with is the Morphable Office, a project that Gensler principal Darrel Fullbright describes as “a hypothetical research project that we used to codify all of the internal thinking around the future of the office, post-pandemic.” The speculative structure is designed for tenants with a hybrid work style but equipped with innovations intended to promote physical and psychological wellness in a way that employees might not find at home.

The six-story structure’s movable facade panels, for example, would allow the amount of open access to outside space to be increased from 30 to 50 percent, and use of radiant heating and ceiling fans would keep the space comfortable for much of the year. Terraces facilitate outdoor working. The concept was based in part on research that suggests that being outside and moving more stimulates worker productivity and creativity.

“We had an internal panel with a neuroscientist, an anthropologist, and more traditional real estate people, and it came from there,” Fullbright explains. “According to them, hermetically sealed glass boxes are in conflict with evolutionary traits.”

The Morphable Office's ground floor would contain flexible space for local merchants, artists, and performers to create a connection between the building's corporate workforce and the surrounding community. Rooftop photovoltaic panels and use of passive solar power would enable the building to use 50 percent less energy than a traditional office building, and a system to capture rainwater for use in toilets would make it even more environmentally friendly.

Fullbright sees the Morphable Office's purpose as twofold: "to create an environment that is so compelling that people want to come back into the office to foster culture, creativity, collaboration, and innovation, but also to appeal to team members' desire to be part of a bigger moment to address things like equity and climate change."

Though the Morphable Office is not slated for construction, parts of its design may be incorporated into future buildings as cities grapple with the question of how to survive and evolve in an urban future that may have been permanently altered by the pandemic. COVID-19 took a heavy toll on cities in mortality and illness, and disrupted the work culture, emptying downtown office towers as employees stayed home and became accustomed to working remotely. It also reversed longstanding migration patterns, as some inhabitants moved out of big cities and into the suburbs and smaller cities, where they found less density, more affordable housing, and many of the same amenities.

Those dramatic pandemic-induced shifts—and the accompanying economic and social impacts—have led some to question whether the nation's big cities are headed for decline. Nevertheless, experts in a range of fields—from real estate and architectural design to urban planning, sociology, and economics—generally paint an optimistic picture of the urban future.

While COVID-19 upended some trends—such as the shrinking allocation of office space to workers—those changes may turn out to be beneficial, they say. For instance, as cities struggled to keep businesses alive, they came up with innovations such as converting streets to outdoor dining spaces, which proved so popular that they may continue after the health crisis subsides. Other pandemic-induced trends, such as the creation of pedestrian and bike parkways, wellness-oriented building design, and the morphing of central business districts into mixed-use neighborhoods with greater numbers of residents, ultimately might make cities more livable.



The Morphable Office's movable facade panels would allow increased access to open air for much of the year. (Gensler)



The Morphable Office's green terraces help create another connection to the outdoors. (Gensler)

Downtown Migration Patterns

One of the most profound changes has been the forced shift to remote working, as corporate offices closed or reduced occupancy for safety reasons. Even as those offices reopen, many experts do not see them filling up again to their former levels. A study published last year by University of Chicago economists Jonathan I. Dingel and Brent Neiman found that across the United States, 37 percent of jobs could be performed from home.

That could lead to significant urban population shifts. A Gensler international survey of 10 cities—New York City, San Francisco, Atlanta, Austin, and Denver, as well as London, Paris, Singapore, Shanghai, and Mexico City—found that 33 percent of people who had the ability to work remotely were likely to consider moving, compared with 22 percent of those who could not do their jobs online.

“As more options open up, it allows people to start thinking, maybe I can live somewhere else,” says Sofia Song, Gensler’s global cities lead. She notes that 70 percent of those potentially on the move wanted to relocate to less populous areas—most often to a smaller city (27 percent) or to a suburb (21 percent).

Andrii Parkhomenko, an assistant professor of finance and business economics at the University of Southern California, and his colleagues have modeled how the population distribution of the Los Angeles area would be altered if a third of the workers switched to doing their jobs remotely. They found that the population would spread out slightly, with some telecommuters moving outward from the urban core to the suburbs and further, leading to a 6 percent drop in home prices in the city.

But that trend may be muted because lower housing prices in what used to be the most convenient urban neighborhoods attract young people who value proximity to restaurants, entertainment, and the arts. “Downtowns are not the only places where people work,” Parkhomenko says. “[People] also enjoy the amenities these places offer.” Parkhomenko also thinks the shift toward remote work means a brighter future for coworking spaces, a trend that seemed to be threatened by the pandemic. “More than half of the workers doing their jobs at home don’t have the space,” he says. “They’re working in bedrooms and kitchens.”

But the effect of remote working on cities may be even more complex and nuanced. Cities create a strong network effect—an array of many different professions, all working together intensely—that is crucial for driving innovation in fields such as finance, education, and technology, says sociologist Luis Bettencourt, a professor at the Santa Fe Institute and director of the Mansueto Institute for Urban Innovation at the University of Chicago. “These industries require co-location,” he says. That may keep certain businesses and workers in larger cities, while other types of businesses and workers relocate.

Minneapolis-based consultant and futurist Jack Uldrich concurs with Bettencourt. “Knowledge workers will be able to innovate online,” he says. “But there is something to face-to-face interaction and geographic proximity, an intangible benefit to getting together in person.”

Song notes that while the rise of remote working does not mean the end of big cities, it does suggest that they need to alter their approach to economic development. Instead of just focusing on attracting large employers, “it’s going to mean cities providing those place amenities and great experiences to attract workers,” she says.

Cities May Survive by Evolving

As a result of decreased demand for office space, William Fulton, director of the Kinder Institute for Urban Research at Rice University, expects to see a lot of office buildings in central business districts across the United States eventually converted to residential use. “I think the template probably is Los Angeles,” he says. “L.A. began this transition 20 years ago, when the old 1920s office buildings began to flip to lofts.”

Michael Storper, a distinguished professor of regional and international development in urban planning at UCLA, envisions some urban office towers possibly evolving into mixed-use “work/residence buildings.”

“I think this would be desirable as a way to repopulate business districts, with a strong, positive spin on benefits for urban amenities, street life, and so on,” he writes in an email. “The separation of work from residential districts in American cities has always been a problem. Maybe this is the beginning of rectifying that separation.”

Such office conversions may be part of those downtown cores being redeveloped as neighborhoods with a broader range of uses and an increasing number of residents, experts say. In that scenario, other parts of the built environment could be repurposed as well, with unused buildings and parking structures morphing into solar energy-generating facilities or vertical urban farms to provide fresh food.

The evolution of central business districts may require cities to develop a more flexible approach to zoning, according to Bettencourt. In the past, he says, zoning was driven in large part by public health concerns about industrial pollution and the assumption that it was important to separate areas where people lived from where they worked. “Increasingly, the economic activity that exists in cities is less polluting and less impactful,” he says. “In fact, this is an opportunity to have more integration of uses, which could be positive. You can have more retail, more parks, more recreational opportunities.”

The pandemic also forced cities to rethink their use of public space. To keep local restaurants and bars from going under during the pandemic, numerous cities created outdoor dining areas, reallocating sidewalk space and even closing streets to vehicles for that purpose. That experiment proved so successful and popular that many experts envision it becoming a permanent phenomenon.

“The use of public spaces by restaurants is something that we’re starting to see stick,” Bettencourt says. “There’s a need for urban planning to adapt these spaces and make them more pleasant.”

In the future, city planners also will need to figure out how much public space can be privatized and whether they should charge businesses for using it, observes George C. Homsy, a former urban planner for Saratoga Associates who is now an associate professor and director of the Sustainable Communities and Environmental Studies programs at Binghamton University.

Homsy envisions cities tailoring their solutions to their individual needs. “If a city is in a cold climate, they might be willing to give that space away for three months. But in San Francisco, where it might be in demand year-round, they’re going to have to think more about it.”

B.D. Wortham-Galvin, an associate professor and director of the Master of Resilient Urban Design program at Clemson University, thinks cities need to take a fresh look at how to program public spaces. “The designation of what happens on sidewalks, streets, and surface parking might become part of a more nuanced version of zoning so that is it programmed in more complex ways rather than single use,” she says.

Some downtown streets could be converted to a wider range of uses besides restaurant dining, says Catherine Brinkley, an associate professor in human ecology, community, and regional development at the University of California, Davis. “That

really depends on what the community wants to see,” she writes in an email. “Food trucks, park space, community gardens —those are all great alternate uses that have been piloted to success in places where the surrounding businesses and neighbors want those uses. That’s the key: there needs to be demand for the alternate use. And that demand needs to overcome the demand for parking, a perennial topic in any city hall.”



A section of Kaufman Development's Gravity project in Columbus, Ohio. (Gravity)



Gravity includes outdoor green space and colorful exteriors. (Gravity)

Healthier Places to Live

As Brinkley wrote in a recent article for *The Conversation*, a science website, past disease outbreaks **have often resulted in American cities transforming themselves** to become healthier places. A surge of yellow fever in Philadelphia in 1793, for example, killed about 10 percent of the city's population—but led the city to allocate funds to clean the gutters where refuse had helped the disease spread. Similarly, the threat of cholera in the 1850s led New York City to build a reservoir to deliver clean water to residents. Central Park, the nation's first public park, was created around that time with the aim of improving New Yorkers' health.

Brinkley sees a similar opportunity in the post-pandemic era. Street conversions for dining, she believes, may trigger a movement to “unpave the way” and create more urban parkways and green spaces.

Others agree. “We can use outside spaces very differently, without disrupting the throughput and flow of a city,” says Brian Swett, cities leader in the Americas for global engineering and design firm Arup. In his own Victorian-era neighborhood in Boston's South End, Swett has seen dramatic effects from street conversions. “Walking around, it's become like a European plaza,” he says.

In Boston and elsewhere, according to Swett, “there are more people walking and biking and experiencing cities in new and profound ways.”

One pre-pandemic trend—shrinking space allocations for office workers—seems to have been stopped in its tracks by concerns about the spread of COVID-19.

“In major markets, we were pushing per capita space below 150 square feet [14 sq m] per person, and in some markets trying to get that below 100 [9.3 sq m],” says Jesse Keenan, an associate professor of real estate in the School of Architecture at Tulane University. Instead, “we're probably going to see those numbers go up to closer to 200 square feet [18.6 sq m] per person. We're going to want more space, and we're not going to want to be crammed in tight.” Keenan thinks the shift to hybrid working will make it possible to allocate more room to employees. “We'll get there, because people still want to be in the office for two or three days a week rather than five days,” he says.

“Real estate was designed to squeak out efficiency from every square inch of space,” Keenan says. “We as a society have had to take a step back. The market is readjusting to everybody taking that step.”

Keenan thinks the pandemic will lend impetus to the healthy buildings trend in which developers rely on improvements in air quality and other wellness-related features to differentiate their projects from the competition. Research showing that poorer air quality has a detrimental effect on employee productivity is a powerful marketing tool in the wake of COVID-19. “They can say, ‘This building will prevent x number of people from not showing up for work,’” he says.

The healthy buildings trend will also benefit from technological improvements, experts predict. “The biggest changes in our offices will be the invisible parts, like HVAC advances,” Paul Saffo, a Stanford University adjunct professor and futurist forecaster, writes in an email. He envisions buildings that will continuously monitor interior air for the presence of biologic hazards, as well as air quality. “But this is expensive stuff and there are missing technology pieces, so I see this as a long-term trend to watch.”

An interior space in Kaufman Development's Gravity project, which aims to create a strong community connection among residents. (Gravity)

The project's amenities focus on wellness for body and mind, from yoga to meditation and mental health services. (Gravity)

But it will not just be office towers that emphasize health. In Columbus, Ohio, Brett Kaufman, chief executive officer of Kaufman Development, has developed a market niche in health-oriented projects. This spring, Kaufman started construction on the second phase of the Gravity mixed-use project in the Columbus's Franklinton neighborhood. Phase two

will feature 840,000 square feet (78,000 sq m) of space, including a six-story building with 170,000 square feet (15,800 sq m) of creative office space and a 12-story residential tower and co-living community. The design makes extensive use of exterior space with an outdoor movie wall and offers wellness-oriented amenities such as a meditation center and on-site mental health services.

“The experiential and impactful aspects of Gravity are very much in line with what people discovered as important during the pandemic,” Kaufman writes via email. “People are seeing the importance of health, well-being, creative expression, nature, impact, and transformation. They have found mindfulness practices, mental health support, ways to connect to passion, purpose, and to collaborate with others who share their values.”

Like the Morphable Office concept, Gravity seems to be in step with an urban zeitgeist forged by the pandemic in which building and designing for better health are seen not just as requirements but as ways to add value and create wealth. “The history of cities is one of adaptation after adaptation to threats,” Bettencourt says. He and others envision similar progress this time.

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