

# Everything from Home.

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Impact of COVID-19 on Multifamily Residential Design

# About

The COVID-19 global pandemic has forced us to reexamine the spaces we occupy and interact with in our lives, most notably our homes. Our homes have become offices, classrooms, gyms, restaurants, theaters, and everything in-between. While initially we were wary about how we would make it all work, now, as re-opening plans materialize, we are realizing the value of some of the lessons we have learned. As one of the nation's leading urban residential design firms, we are thinking about how architecture and design can respond to and support these new notions of home.

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# Everything from Home

We aren't just working from home. We are learning from home. Teaching from home. Meeting from home. Exercising from home. Entertaining from home.

With our whole lives encapsulated within our homes, we've had to be creative in how we use our space to accommodate a multitude of functions. What we've learned is that flexibility in our homes is key. How can we as designers incorporate flexible spaces within urban multifamily residential units, where every square inch counts? Has this experience opened the door to rethinking priorities when it comes to space?

# The New Home Office

Just as the idea of a home office quickly rose following the advent of the desktop computer, so did it fall when the laptop came along. However, with families, roommates, partners all home together for the past several months, the desire, and value, for a home office is on the rise once again.

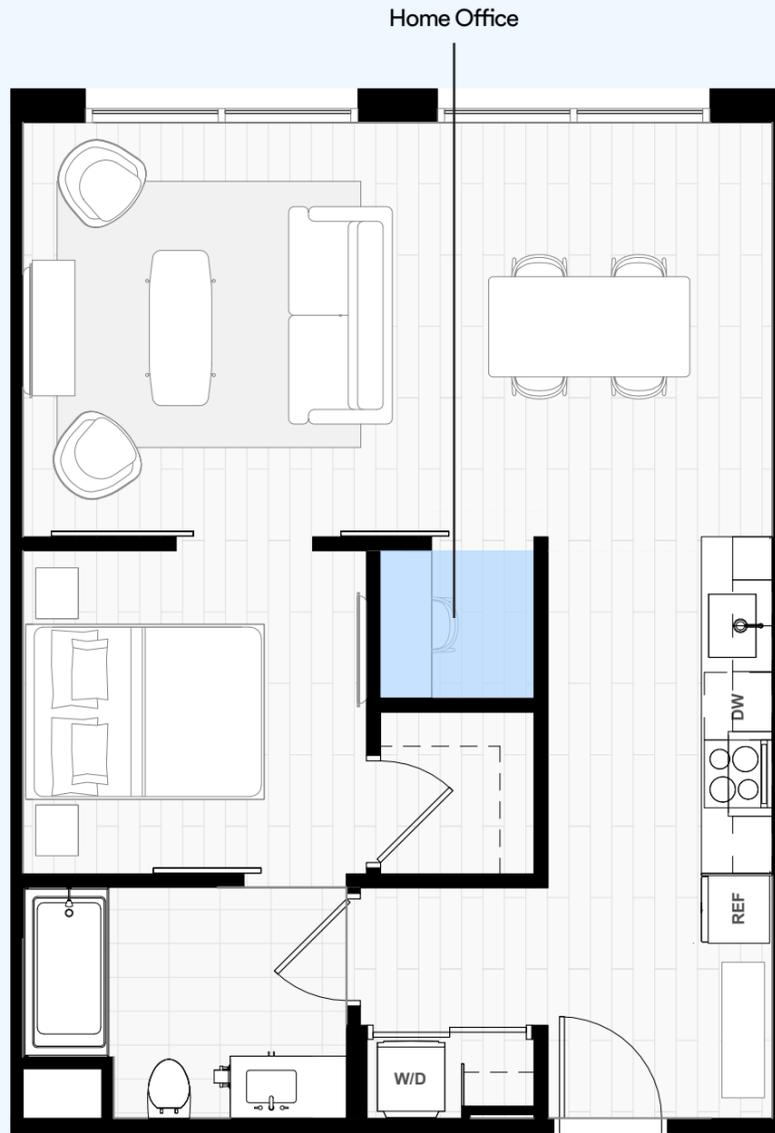
With a portfolio of over 55,000 residential units, we've selected a sample of units ranging in size, geographic location, and target demographics and challenged ourselves to add a new take on the home office to each unit, using the following design criteria:

- Maintain the original unit size
- Create a dedicated space, independent of other rooms
- Accommodate a work surface and possibly storage
- Allow for acoustical privacy when needed
- Provide access to daylight (and potentially views, too)
- Allow for the space to be closed-off both when in use and when not in use
- Consider user comfort, such as temperature control and airflow

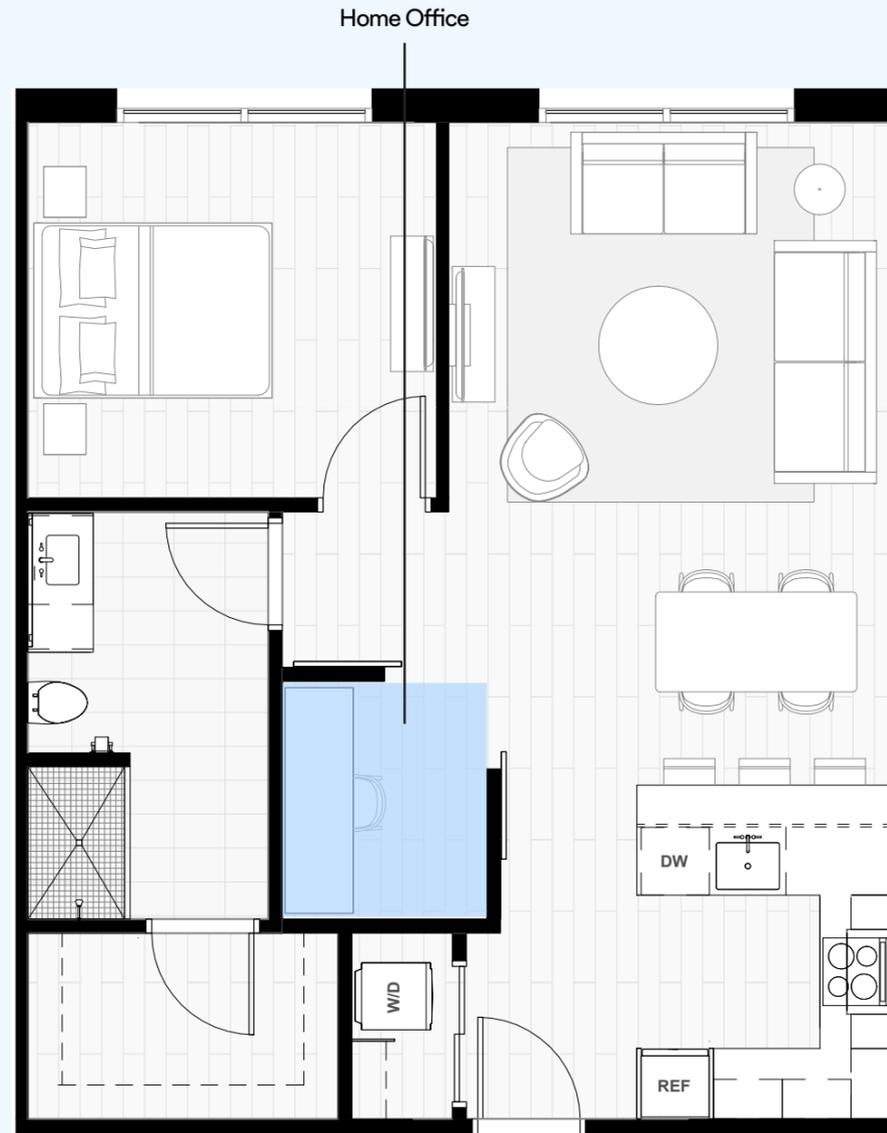


# The New Home Office

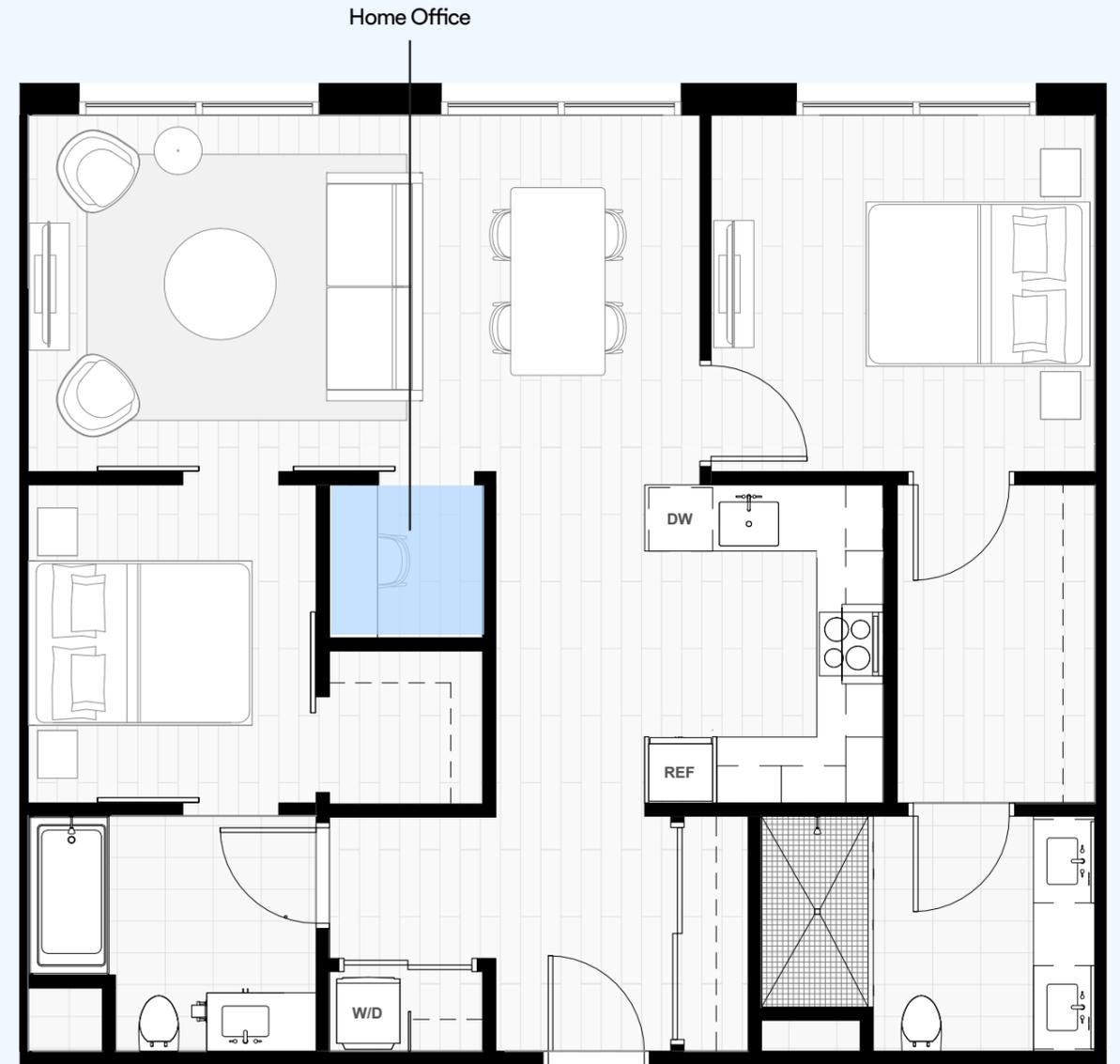
Use your smart phone's camera to scan the QR code associated with each plan for a 3D virtual experience of each unit.



1 Bedroom, 1 Bath + Office  
650 SF



1 Bedroom, 1 Bath + Office  
740 SF



2 Bedroom, 2 Bath + Office  
980 SF

# Is it Time to Re-Think Our Space Priorities at Home?

Flexibility has been a key design driver in workplace and campus environments for the past several years; however, the concept hasn't taken on the same level of importance in residential design. The COVID-19 experience taught us is that we need to look at unit design with an eye towards flexibility, and not just in terms of our immediate needs.

If we reexamined our space priorities and needs at home, could a residential unit adapt as the needs of its residents changed over time? As an increasingly diverse population, are there lessons to learn from the residential norms of other cultures? What impact does intergenerational living have on unit design? With an increased interest in simplifying our lives, do we need so much storage? Do we need a new type of unit to support a group of roommates of all ages?



# Is it Time to Re-Think Our Space Priorities at Home?

Using the footprint of a 925 SF, 2 Bedroom (with master suite), 2 Bath Unit as a starting point, the Flexible Unit considers a variety of potential cohorts (couples, roommates, families, intergenerational families, etc.) and the core requirements each of these groups would potentially need in a home. By challenging some of our common residential assumptions, thinking more about how we use space, and reallocating square footage across space types, we are able to create a 4 (legal) Bedroom, 1.5 Bath unit that can accommodate a range of residents and needs.



Typical 2 Bedroom, 2 Bath Unit



Flexible Unit

# Mixed-Use Amenities

The “home” in a multifamily development extends beyond the unit, encompassing the range of amenities and public spaces shared by residents. This sense of community is one of the most desirable aspects of city living, yet it’s the most challenging to address from a health safety perspective. Are there changes we can make to a building’s common areas, amenities, and services that can help keep residents healthy and ultimately enhance the resident experience beyond COVID-19?

# Lessons from Co-Working

Predictions about the long-term impact of COVID-19 on the office and workplace markets seem to vary day by day. Assuming that many people will choose to remain working from home, we are looking to the co-working market as a model for what types of spaces and resources can support a workforce, at home.

- Individual Workspaces
- Phone Rooms
- Small Meeting Rooms
- Conference Centers
- Maker Spaces
- Cafes
- Collaborative Technologies
- Fabrication Resources (3D printers, laser cutting, etc.)



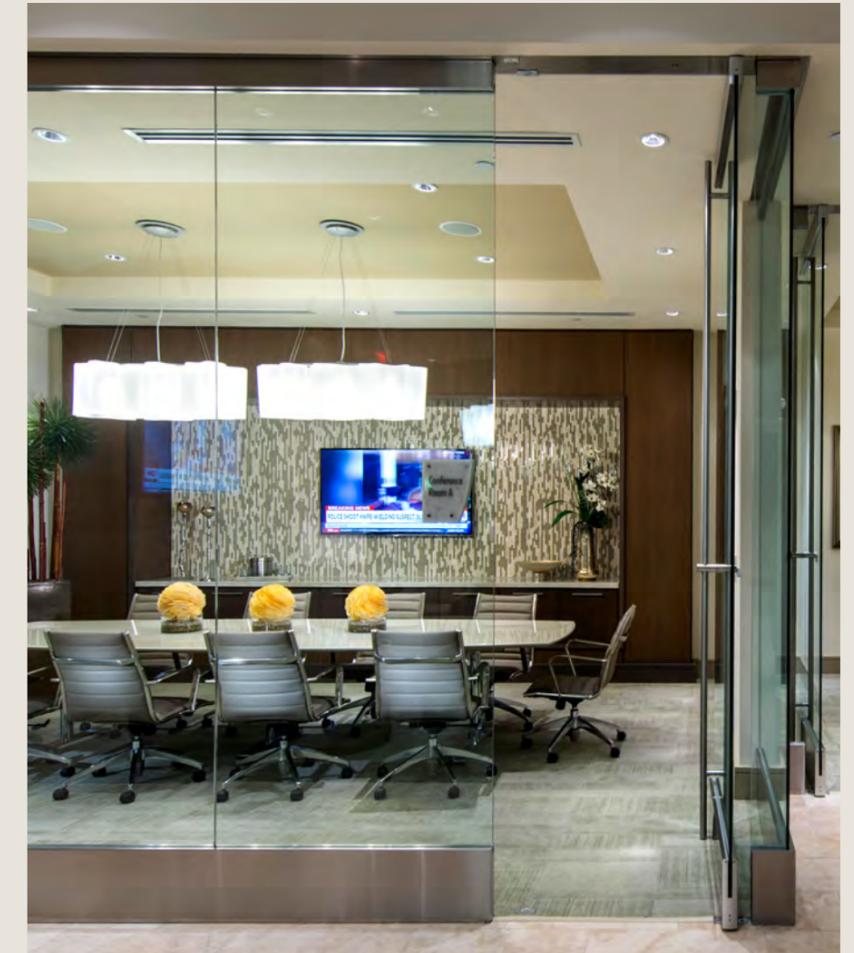
1001 S. State in Chicago's South Loop features a maker space with technical resources such as a 3D printer and CNC milling machine.



100 Van Ness offers residents a space to work in a lounge-like setting in San Francisco's Mid-Market neighborhood.



In Chicago, 30 East's amenity floor includes a variety of meeting rooms.



At Post Oak in Houston, a ground floor conference center is available for resident use.

# Potential for New Revenue

Many developments today provide some sort of work-focused space as part of their amenity package. However, there could be new opportunities to generate revenue by adding a few more layers to these offerings, such as private, for-rent offices or workrooms. These could be incorporated within the resident-only accessible amenity floors, or could be options for un-leased retail space at the ground floor. Following the same idea as a renting a parking spot, residents would have the option to rent a workspace, separate from their unit, yet still commute-free.



# Fitness

A person can only workout in their living room for so long. With gyms being among the last public facilities to re-open, we've started thinking more about fitness-focused amenities that will appeal to residents, pandemic or not.





## Bring the outdoors, in

With naturally ventilated spaces performing better than enclosed spaces in terms of lessened transmission, indoor/outdoor fitness facilities are at an advantage in terms of resident preference.

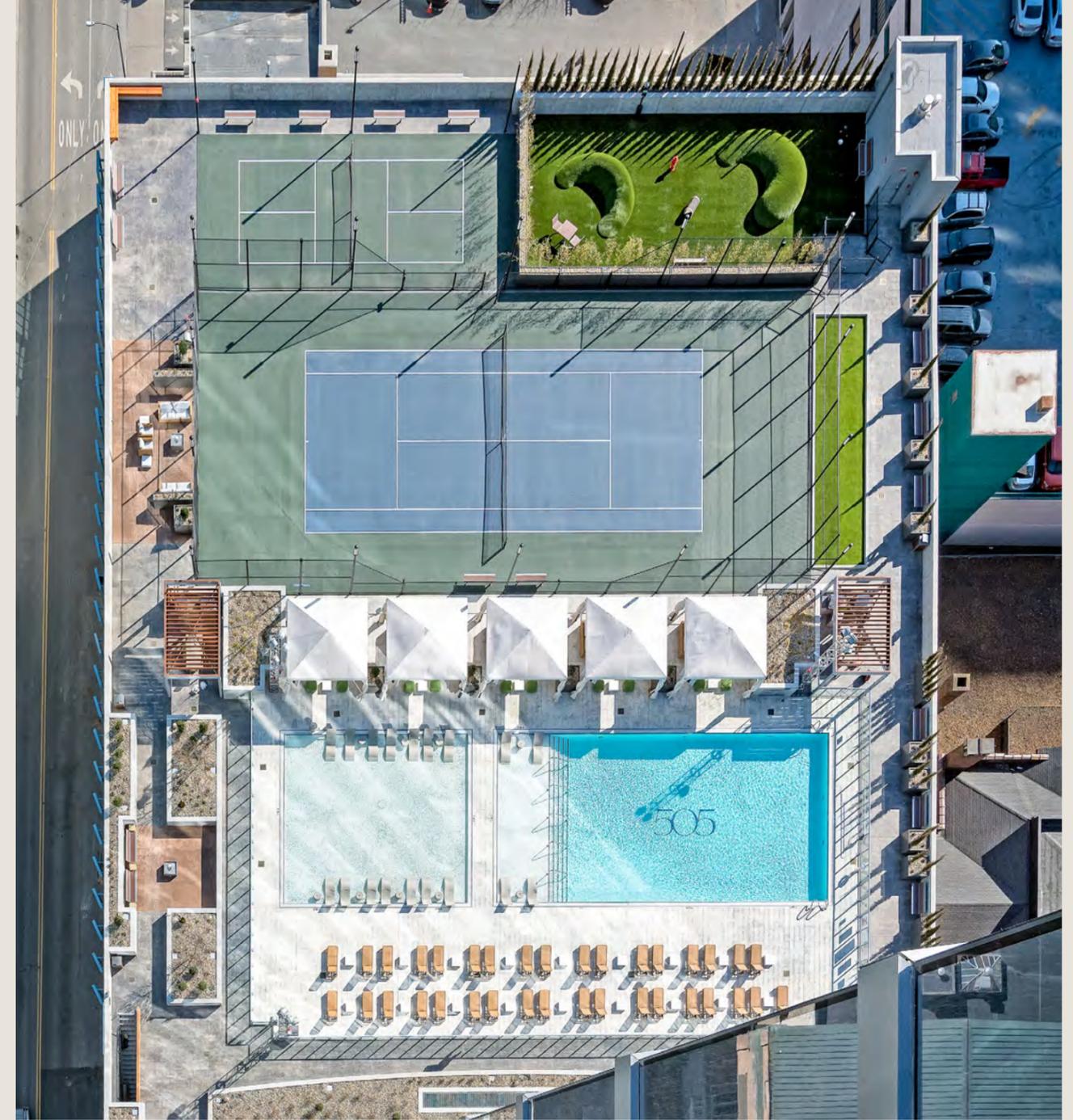
## Add studios to the mix

Smaller fitness studios can be used for individual or small group on-demand classes.



## Think about high tech, low touch offerings

Technology-enhanced fitness offerings, such as the Mirror, offer a range of activities with limited touch required.



## Activate outdoor amenities

Often focused on lounging and recreation, amenity decks (especially atop large podiums) have the potential to offer a wide range of fitness-focused activities in a safer, outdoor environment. Walking/running tracks, yoga lawns, various sports courts, and interval circuit training stations can all be differentiators to potential residents.

# Support for Pet Residents

With people spending more time at home, many cities have seen an increase in pet adoption rates. These new “residents” and their unique needs necessitate specialty amenity spaces that are focused on convenience, for both owners and pets. Dog runs and washing stations are standard in many multifamily amenity packages. What we have learned is that pet owners are one of the strongest communities within a building, easily bonding over a shared love for their pets. As such, spaces once reserved to support basic pet needs are now incorporating more social design elements; dog runs are now parks with seating, dog washes are now spas that can accommodate several users.



# The Great Outdoors

Outdoor space, whether private or shared, is one of the largest leasing advantages at the moment. The ability to control density and distance puts these spaces at an advantage over larger public parks. Add plenty of access to power and a strong wireless connection, and these spaces extend the work-from-home “workplace.” Or, taken on their own, offer residents a respite and change of scenery from their units.



A large elevated terrace at 1717 Webster in Oakland includes a variety of outdoor lounge groupings and a fireplace surrounded by mature trees.



All units at Park Central in Calgary feature private balconies.



Eight large, public “sky parks” are offered to residents at Solaire in San Francisco, in lieu of private balconies.

# Public Spaces and Building Services

Shared common areas and personal service are two challenging aspects to maintaining health safety in multifamily residential developments. Restricting resident access and use is not an option, however there are several products and technology solutions that can reduce the need for physical contact and face-to-face interaction.

## Touchless Circulation

- Automatic sliding and revolving doors
- Smart phone controlled elevator calling

## Virtual and Robotic Services

- Virtual front desk and concierge
- Robot package delivery
- Building experience smart phone app

## Sensor Activated Fixtures and Accessories

- Faucets, soap dispensers, and hand dryers
- Hand sanitizer stations
- Trash chutes



# How Can We Transport Building Users Safely?

## Reduce Density

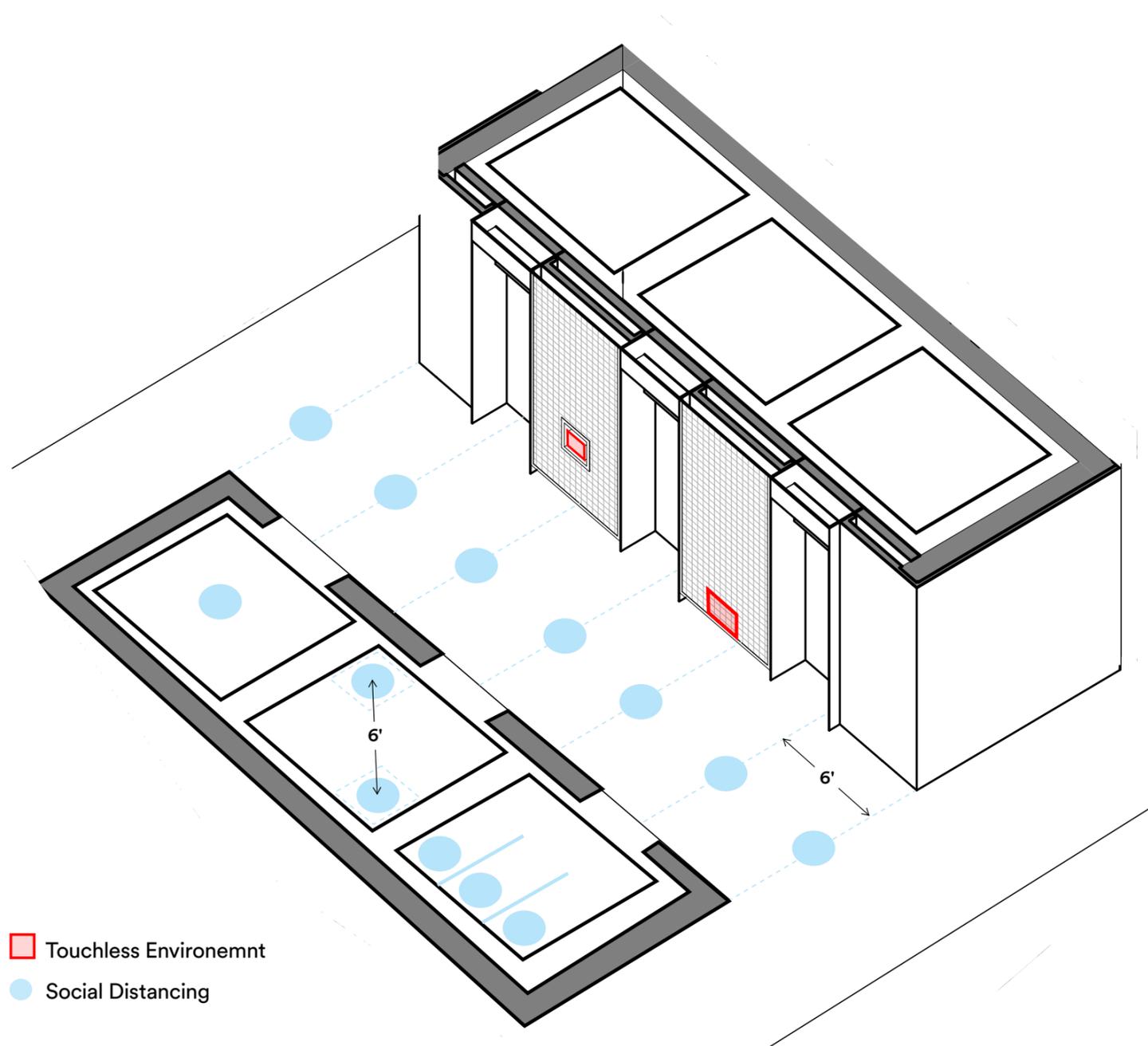
- Reprogrammed destination dispatch technology reduces the number of passengers in each cab
- Stair use can reduce number of elevator users

## Communicate and Implement Distancing Measures

- Floor graphics to indicate distanced queuing in elevator lobby
- Floor graphics to ensure social distancing in elevator cabs
- Temporary partitions in elevator cabs

## Eliminate Hand Touch

- Foot operated call buttons eliminate high-touch hand controls
- Remote call systems and apps enable users to call elevators from smart phones
- Non-contact door and button tools allow for no-touch operation



Foot-operated call buttons



Elevator calling app



No-contact tool

# A Renewed Focus on Wellness

Wellness was trending far before the current health crisis, but is becoming a much higher priority as we think about the post-COVID world. Select concepts offered by the WELL Building Standard, a certification system that is focused on the impact of buildings on human health and wellness, are especially relevant as we think about how multifamily developments help support residents. We've touched on notions of community and the importance of feeling connected, but how can technical innovations, building systems, and materials contribute to our overall well-being at home in the "new normal?"

## Air

Water

Nourishment

Movement

## Thermal Comfort

Sound

Light

Mind

## Community

Innovation

Materials

# What Changes Can We Make to How We Ventilate Residential Units?

The COVID-19 pandemic has led to a renewed awareness of the importance of indoor air quality standards. Current mechanical codes and standards allow a large amount of air to be recirculated, rather than refreshed, in an office building, increasing the chance of transmission of a virus. OSHA recently published a guide for businesses to prepare their workplaces to be in compliance with the 1970 Occupational Health and Safety Act for COVID-19 which includes engineering controls such as high efficiency filters and increased ventilation. Local municipalities are investigating changes to their building and public safety ordinances to include improved air quality standards to ensure safe workplaces during and after the pandemic.

- Natural ventilation rates can be increased to bring in more fresh air through the exterior enclosure. Exceeding the current minimum code area requirements for openings as well as trickle vent openings, are strategies to increase the natural ventilation in living units.
- Increased filtration can be used to trap additional particulates in building make-up air units and individual mechanical units.
- UV air purification systems can be installed in public spaces that utilize central ventilation systems.
- Public spaces can be designed or retrofitted to meet higher air quality standard certifications such as RESET, which require real-time monitoring of TVOC temperature, relative humidity, particulate matter, and CO2 levels to improve air quality long term for healthier spaces.

# Solaire

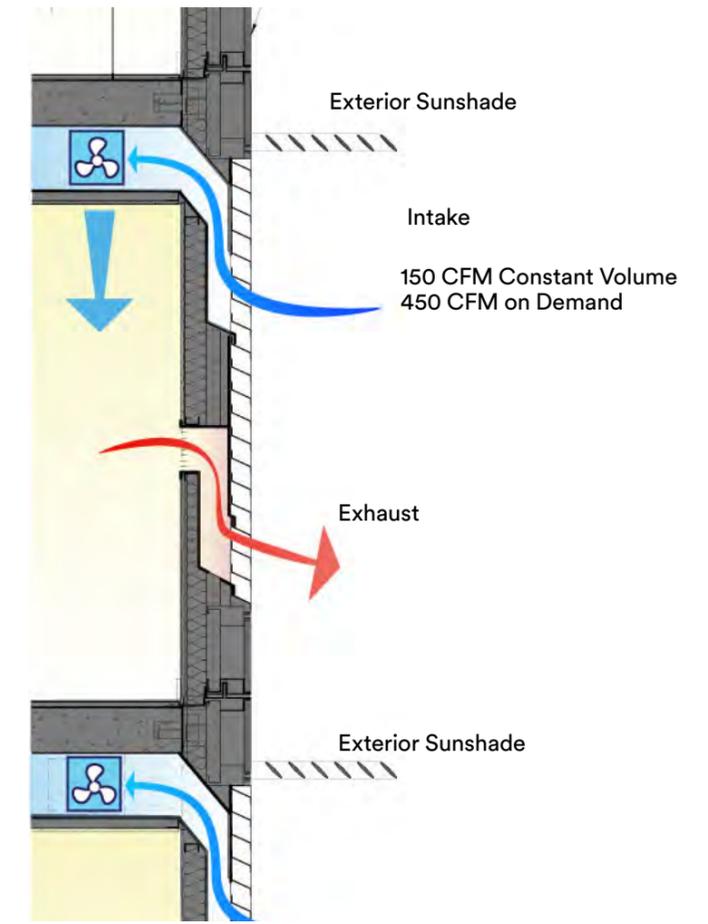
Solaire is a 32-story, 409-unit apartment tower located in the SoMa/Transbay District of San Francisco. The building establishes a new benchmark for sustainable building strategies by leveraging the city's mild winters and dry summers.

Through the use of high-performance glazing and optimized external shading devices, internal space loads and solar gains were minimized to the extent that no mechanical air conditioning was provided. Each living unit is naturally ventilated through operable windows and an occupant-controlled, fan-forced outside air ventilation system.

**Location**  
San Francisco, CA

**Size**  
423,000 SF  
32 stories

**Sustainability**  
LEED Gold



Typical Section at Louver



Window and louver detail



Facade showing operable windows and louvers

# Materials Matter

COVID-19 has us all thinking about how we can keep our homes clean and safe. Countless materials have been studied in relation to pathogens; however, research specific to COVID-19 is limited as it is a novel virus. While some materials have performed well in lessening transmission due to their actual composition, far more are noted for their ability to be thoroughly cleaned. This is particularly the case with regard to high touch, public areas of a building.

## Glass

Due to glass being non-porous and durable, it can be cleaned with a cleanser as harsh as bleach without damaging the integrity of the product. As such, glass could be a good material to consider for high-traffic, small spaces such as elevator cabs.

## Copper

Viruses live on copper and copper alloys for less time than other metals, making them a good option for high-touch hardware and fixtures such as door handles and trash chute hardware.

## Quartz

Non-porous, man-made materials, such as quartz, make for easy-to-clean countertops in kitchens and baths. Natural stone materials can perform similarly if they are properly sealed, and maintained.

## Carpet + LVT

Overall, floors are considered a low-touch surface. However, solution-dyed carpets in public areas can better withstand bleach cleaning, disinfecting and sanitizing. Similarly, LVT is durable and can withstand harsh cleaners, making it a good option for units and public spaces.



# Lasting Impact

Cities have always been a built record of our history. Architectural styles reflect the aesthetics of their day; building materials change based on innovations and technology; and building codes respond to changing needs and lessons learned. The COVID-19 pandemic has placed the value of our cities under scrutiny, questioning density, public transportation, and resource networks.

So, what will the lasting impact of COVID-19 be on our cities? How will this experience manifest in our built environments? As a firm working in urban centers across the country, we believe that the lessons are in the importance of resiliency, and how it can drive design and overall growth.

# Home, Redefined

Now that we've learned how to do everything from home, we've also realized that home can be anywhere. Global cities are no longer isolated commercial centers, but rather a network of connected communities with shared goals, driven to innovate. Once "exotic" locales are no longer far-fetched ideas as places to live and work, as long as there is a strong Internet connection. Will the post-COVID-19 world see a rise in the global citizen, one connected through technology but not bound by geography?



# Adaptability on a City Scale

A city's needs ebb and flow in response to a multitude of factors. Going into the COVID-19 pandemic, many of our urban centers were facing significant housing shortages. With the potential decreased demand in the commercial office market, repurposing underperforming office assets, either in their entirety or floor-by-floor, to multifamily residential could provide a solution to meeting housing demands.



## Case Study

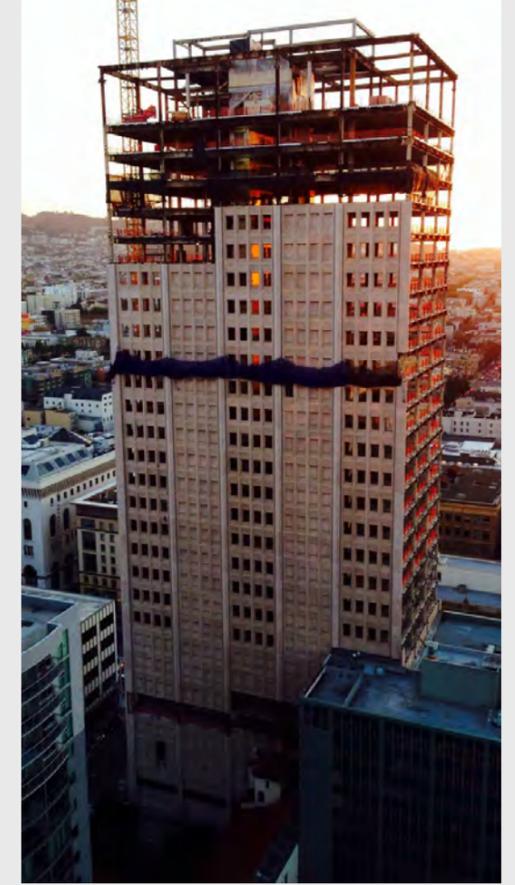
# 100 Van Ness

SCB transformed the 28-story former California Automobile Association office building into a 418-unit residential tower in San Francisco's Mid-Market neighborhood. The project entailed completely removing the masonry exterior envelope and re-cladding the building in glass curtain wall to create light filled residential units.

**Location**  
San Francisco, CA

**Size**  
451,000 SF  
13 stories

**Sustainability**  
GreenPoint Rated



# Tribune Tower

The Tribune Tower is one of Chicago's most treasured historic landmarks. Originally constructed in 1925 and designed by Raymond Hood and John Mead Howells, the office tower was located adjacent to the Paper's existing printing plant. In 1935, the Radio Building was added to the site, followed by the Television Building in 1950.

In 2018, the Chicago Tribune vacated the building and SCB began work on converting the 34-story office tower and surrounding buildings to 162 luxury condominium units, while respecting its Chicago landmark status.

**Location**  
Chicago, IL

**Size**  
950,000 SF  
34 stories



# Emerging Markets

With many major employers considering a permanent work-from-home model, there are new opportunities arising for smaller cities in emerging markets to capitalize on the new normal. These cities can provide the live-work-play urban experience, but on a less dense, more affordable, and smaller scale. As such, they appeal to a broad demographic, from millennials seeking convenience and community, to families focused on affordability, to empty-nesters who are ready to downsize their homes, but not their quality of life.



## The Lumen at Playhouse Square

Cleveland, OH



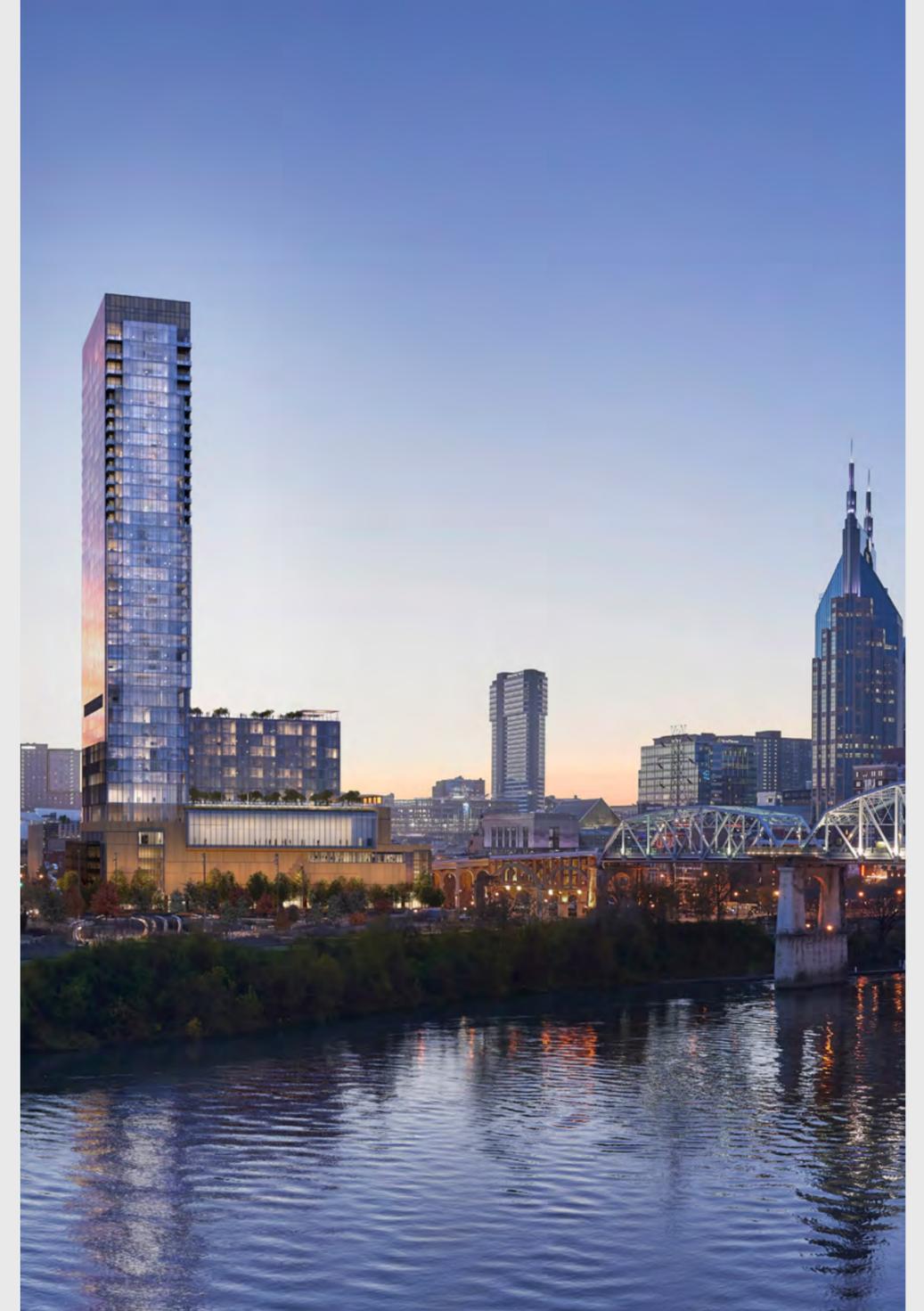
## Buckhead Village

Atlanta, GA



## 7Seventy7

Milwaukee, WI



## Four Seasons Hotel & Private Residences

Nashville, TN

# Solomon Cordwell Buenz

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