



DESIGN QUAR- TERLY

ISSUE 13



AFTER THE RESET
A new design conversation

DESIGN QUAR- TERLY

ISSUE 13

**THOUGHTS, TRENDS AND INNOVATION
FROM THE STANTEC BUILDINGS GROUP.**

The Stantec Design Quarterly tells stories that showcase thoughtful, forward-looking approaches to design that build community.

IN THIS ISSUE: AFTER THE RESET

After over a year of disruption, many aspects of daily life that were paused have returned in 2021. But “normal” is unlikely to look the same as we remember. In issue 13, we look at how the pandemic has shaped the ongoing conversation about work, education, transportation, retail, and what that means for design today and in the future. We also dive into the transformative power of building reuse. As our communities rev up again, thoughtful design will be as relevant as ever.



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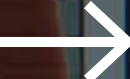
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AND LEE WARREN
INTERVIEW BY JOHN DUGAN



What do employees really want when they come back to the office?
They expect more than collaboration space.

By Mary Sorensen



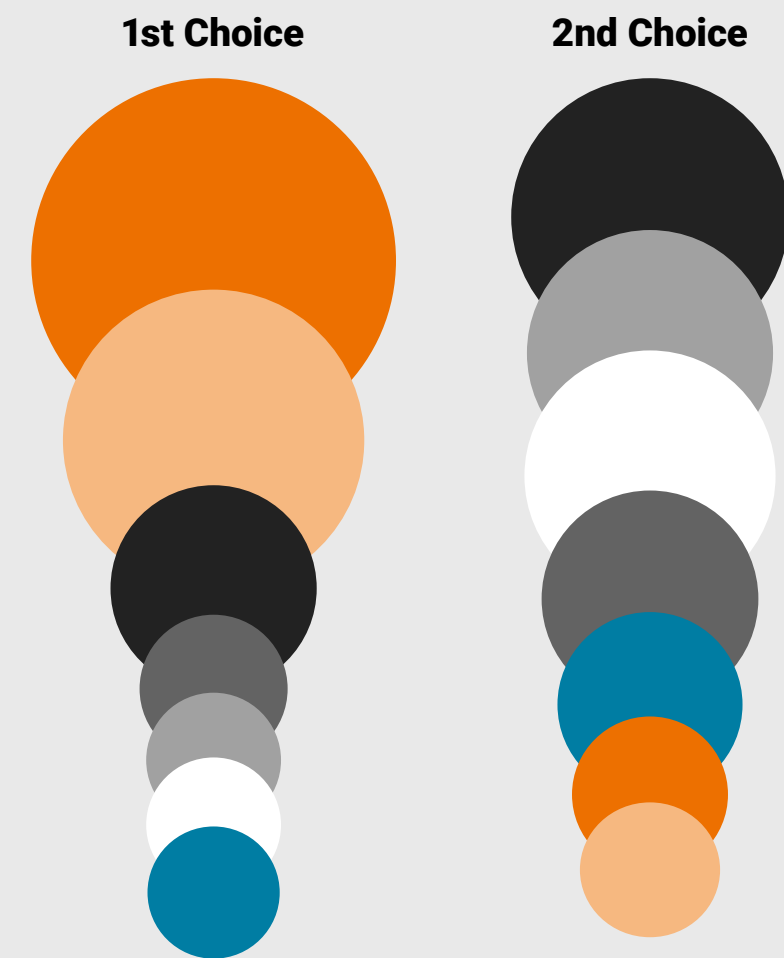
Confidential Client Madison, WI



Big questions loom, for corporations, organizations, and their employees, about the office during this period of transition. What will it look like? Who will be there? What will draw us to it? What do employees want? What do they need to do their best in this coming post-remote work world?

We've lived with work from home for over 15 months now. But, with vaccination rollouts and safety protocols in place, many organizations are gradually returning to the office. Experts in the workplace design world and the commercial real estate community are predicting that broad adoption of the hybrid workplace model (allowing a mix of work from home and work from the office) is likely. This shift would result in a decline in the need for office space, and a changing role for the office space that remains. More social space, more collaboration space.

But, in fact, these predictions are mostly conjecture based on a mass remote working experiment. To understand where the office is headed, we need to find out what the office user, the employee, really wants from their workplace. What are they missing with work from home? If given the option to work in the office, what will bring them back? This is important, because research demonstrates that workplace satisfaction benefits not only the employee, but directly contributes to company performance.



When I return to office, the ideal workplace would provide:

- A desk assigned to me
- A desk when I need one
- Reserved space to meet behind closed doors
- Drop-in spaces to meet
- Open, casual space to work away from my desk
- Enclosed space for focus work
- A place to connect socially

“We were surprised that places for individual work were the number one choice of 75% of respondents, and collaboration spaces were only 11%.”

We did a survey, then a quiz.

In the early phase of the Covid-19 pandemic, Stantec issued its [Workplace Transformation Survey](#) to clients to understand their experience during the work-from-home experiment. Many respondents in this survey were surprised by their organizations' continued effectiveness with employees working remotely. And they expected to maintain some of this new-found flexibility in the future.

Recently we followed up with the [BlueSky Quiz™](#) to gain insights into how the work-from-home experience might impact employee expectations of a future workplace and how that might differ from their pre-pandemic offices. The BlueSky Quiz assesses perceived corporate culture, the current office profile, personal workstyles, attitudes, and expectations about changes for the future. Its algorithm scores users' responses to produce a possible future workplace profile for each individual who takes the quiz. Results range from traditional private office-centric plans to a future-forward workplace with no assigned desking. >

TRENDS IN WORKPLACE AND REAL ESTATE

BY ANGIE LEE



AS WE'VE SEEN IN OUR WORKPLACE SURVEY AND BLUESKY QUIZ, THE ADJUSTMENTS WE MADE TO WORK DURING THE PANDEMIC WILL HAVE LONG-TERM EFFECTS. ALMOST EVERYONE WHO PARTICIPATED IN OUR SURVEY AND QUIZ RECOGNIZED THAT REMOTE WORK IS POSSIBLE, THAT IT CAN BE PRODUCTIVE. WE'VE BEEN TALKING ABOUT THIS SHIFT AS WORKPLACE DESIGNERS AND LEADERS FOR YEARS, BUT NOW REMOTE WORK IS HERE. WHAT ARE ITS RIPPLE EFFECTS?

Real estate portfolio retraction

Our original survey showed that most firms didn't predict a short-term impact on the square footage of their real estate portfolio. Now, however, we can clearly see a portfolio retraction in real estate utilization. Employers have recognized that remote work can reduce their real estate needs. They see it as an opportunity to reduce their overhead spending. As a result, the sublease market is heating up.

Work culture change

Many employers are cognizant that hybrid work will have an impact on their culture. Some companies are engaging in "workforce planning" to help better understand roles and responsibilities in their organization. They are determining which roles can be remote and productive, and which roles require a presence back in the office. Personality, reporting structure, and relationships are taking on increased relevance. Also, now that managers can't simply walk the floor to assess their staff, the big question is "how do you manage a team remotely?"

Delta Dental Regional Headquarters
Denver, CO

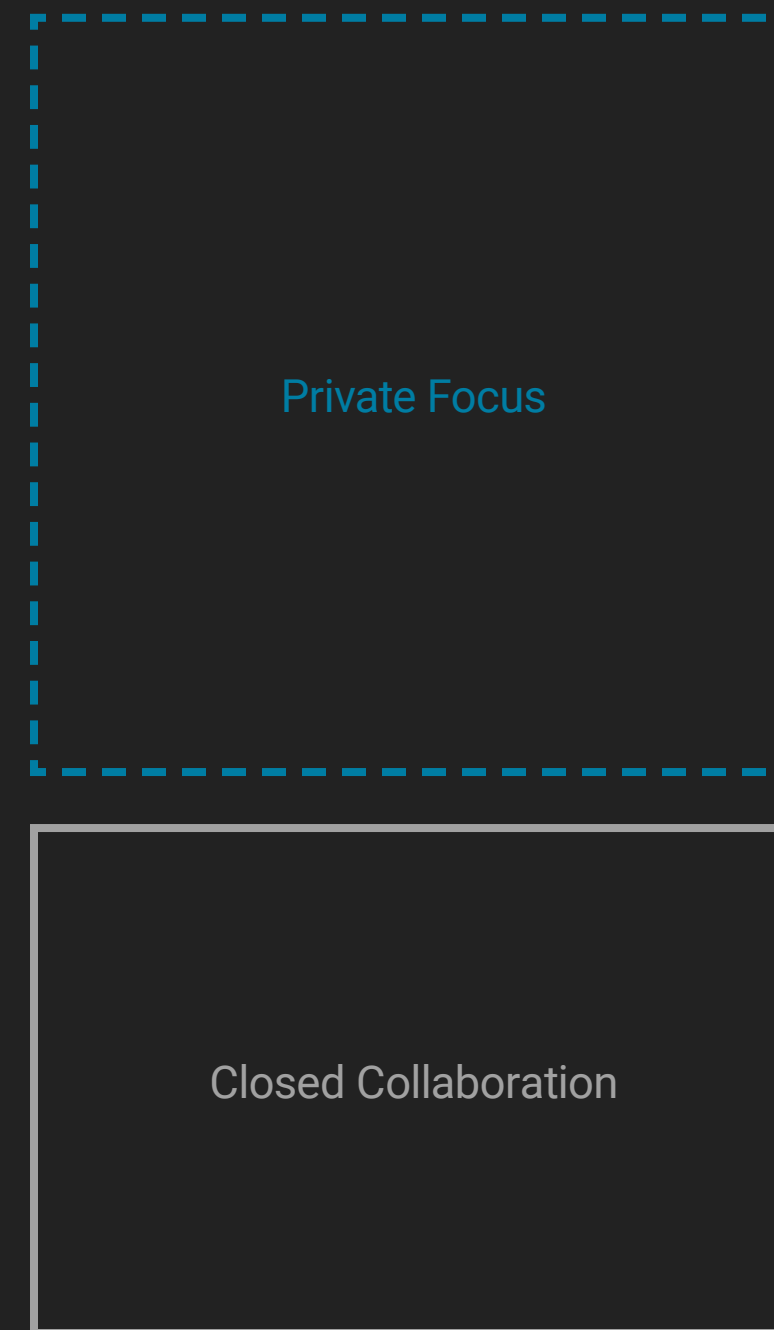
Rebalancing space allocation

Much of our research before the pandemic suggested some industries needed more collaboration space. Now, we are seeing some rebalancing of the ratio of personal spaces to collaboration spaces. However, there's no silver bullet, no prescribed metric for this ratio, it's still relative to industry and each organization's culture.

Traditional Workspace

100% assigned space in office

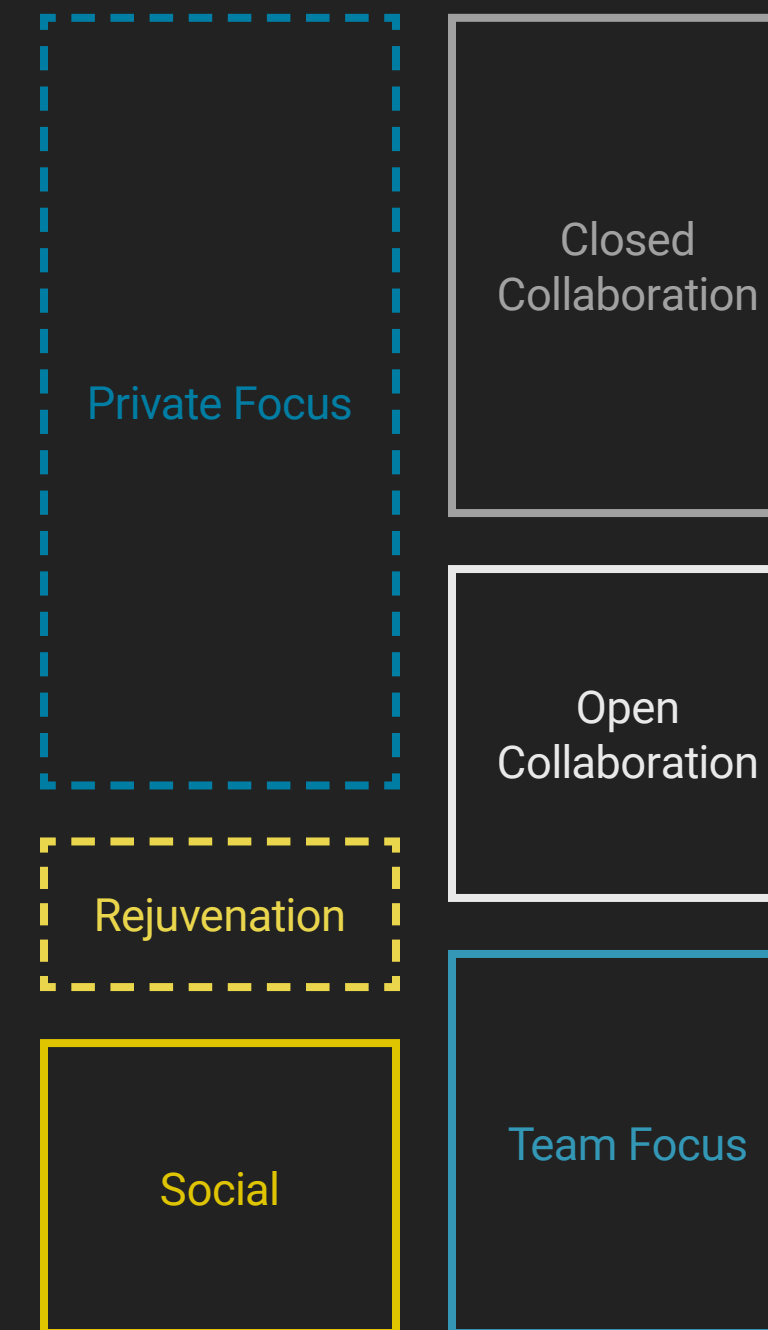
Dedicated in office focus space and meeting space



Activity Based Workspace

50% assigned / 50% flexible

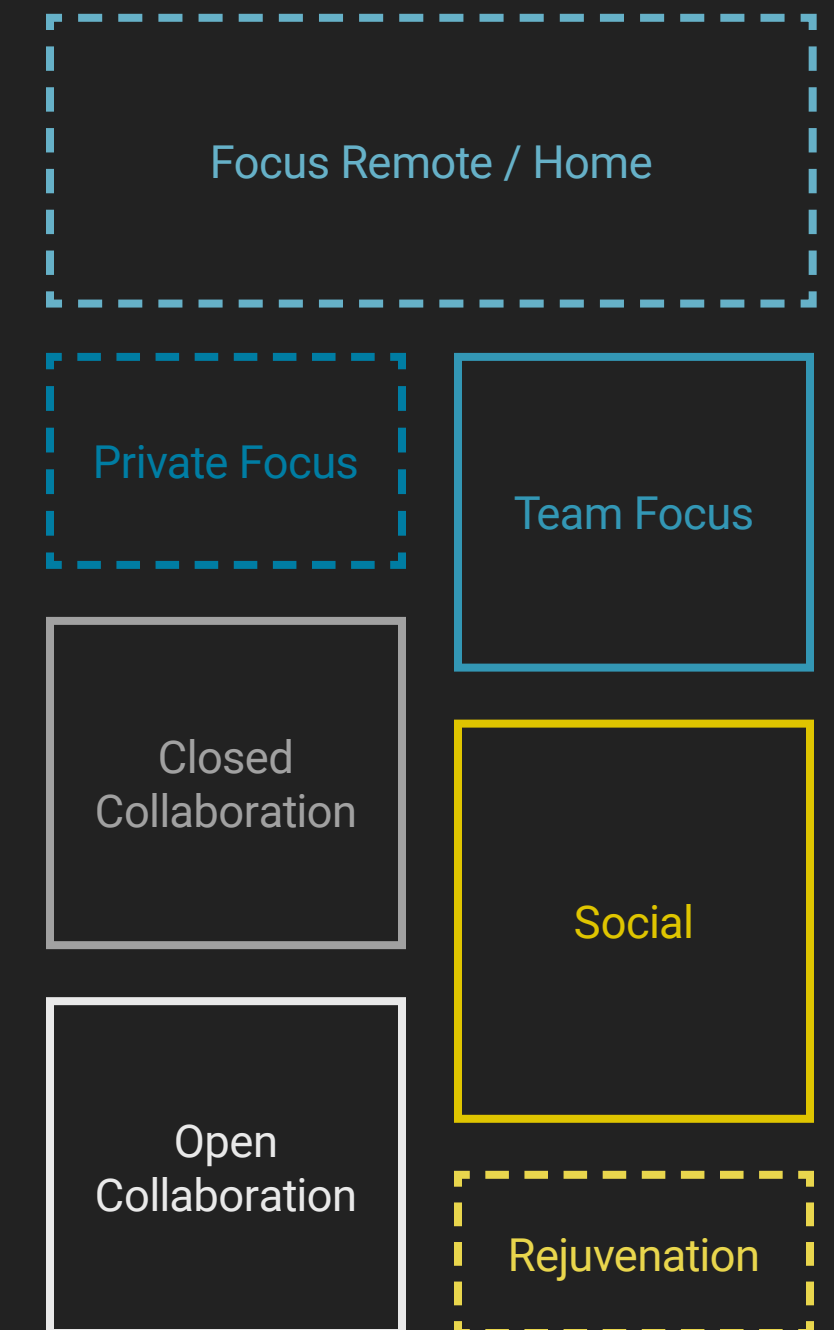
Focus in various forms and ancillary spaces for increased collaboration



Dynamic Workspace

0% assigned space in office

Focus space at home and office HQ as an amenity and collaboration hub

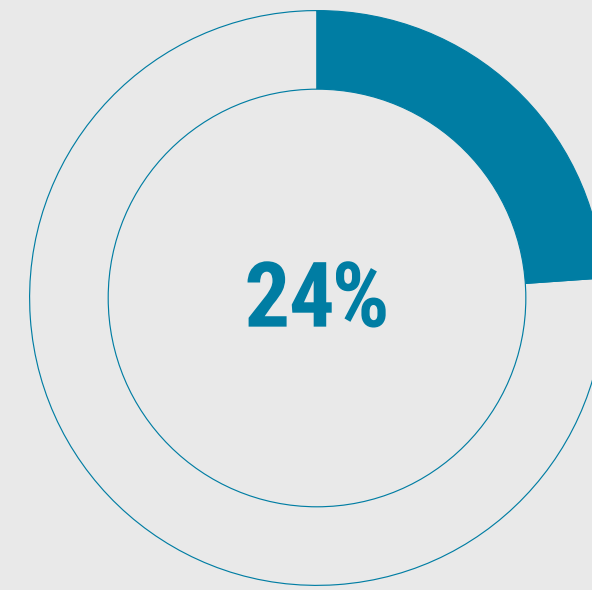


BIG PICTURE:

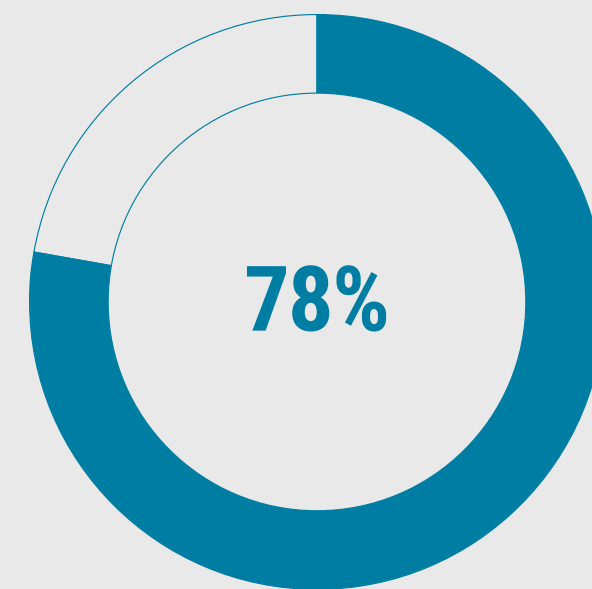
Flexibility and variety

Respondents reported a generally high level of satisfaction with their current workplace. But a closer look found that those with the lowest satisfaction indicated their workplace is weighted to space for individual work over collaboration, with a significantly small amount of amenity spaces. On the other hand, those most satisfied reported a balance of individual, collaborative, and amenity space. When presented with options for the future, employees indicated a preference for variety, and a more informal, flexible environment. This is especially true in their ideas about collaboration spaces. Eighty-two percent of respondents would prefer informal, ad-hoc meeting spaces in a future workplace rather than their current formal conference rooms.

In short: Respondents want variety and they want informal spaces to be available.



anticipate they may work elsewhere more than half of the week



said the work-from-home experience of the past year will change the way they use the office in the future

BIG SURPRISE:

Solo work space

Employees are anticipating a return to the office. Eighty-nine percent of survey respondents indicated they want to come back to the office, but only part time. Ninety-five percent expect their company to allow some degree of flexibility to work outside the office in the future, and 24% anticipate they may work elsewhere more than half of the week. And 78% said that the work-from-home experience of the past year will change the way they use the office in the future.

So, what surprised us? Participants were asked to complete the sentence, “When I return to the office, the ideal workplace would provide...” by ranking options of space types for individual work, collaborative work, and social connections. After reading the headlines about forecast reductions in office space due to the adoption of hybrid work, and survey results demonstrating employees’

expectations to work outside the office, we were surprised that **places for individual work were the number one choice of 75% of respondents**, and collaboration spaces were only 11%. “A desk of my own” was the number one pick for 33%, indicating that many don’t anticipate hoteling or desk sharing with their increased flexibility. Social spaces led the second-choice options, followed by collaboration spaces.

It’s interesting to consider why individuals would hold so tightly to a desk. It could be a lack of vision for how a future office may function. Perhaps they haven’t considered how the “need” might be met in alternative ways. But maybe it’s not about functional necessity, but more about a subconscious longing for a sense of connection to place, or ability to claim individual territory within a larger context.

In short: Employees want to maintain “me” space in the future office. >

The takeaway

Research and intuition tell us that employees will return to the office for the social experience, to collaborate and exchange ideas. They want informal spaces as settings for this face-to-face collaboration and connection. So, yes, we should consider their desire for social and collaboration spaces in the return to work. But we need to remember that for some, the office is still a place for solo work. And many employees continue to expect a dedicated desk when they arrive. Organizations may look to solutions such as a user-friendly reservation system for desk and office assignments along with scheduled hygiene/cleaning protocols.

In short: Successful workplace transformation will require robust change management efforts.



Ⓢ **Confidential Client** Reston, Virginia



Ⓢ **Windy City Training Center, Confidential Client** Chicago, IL

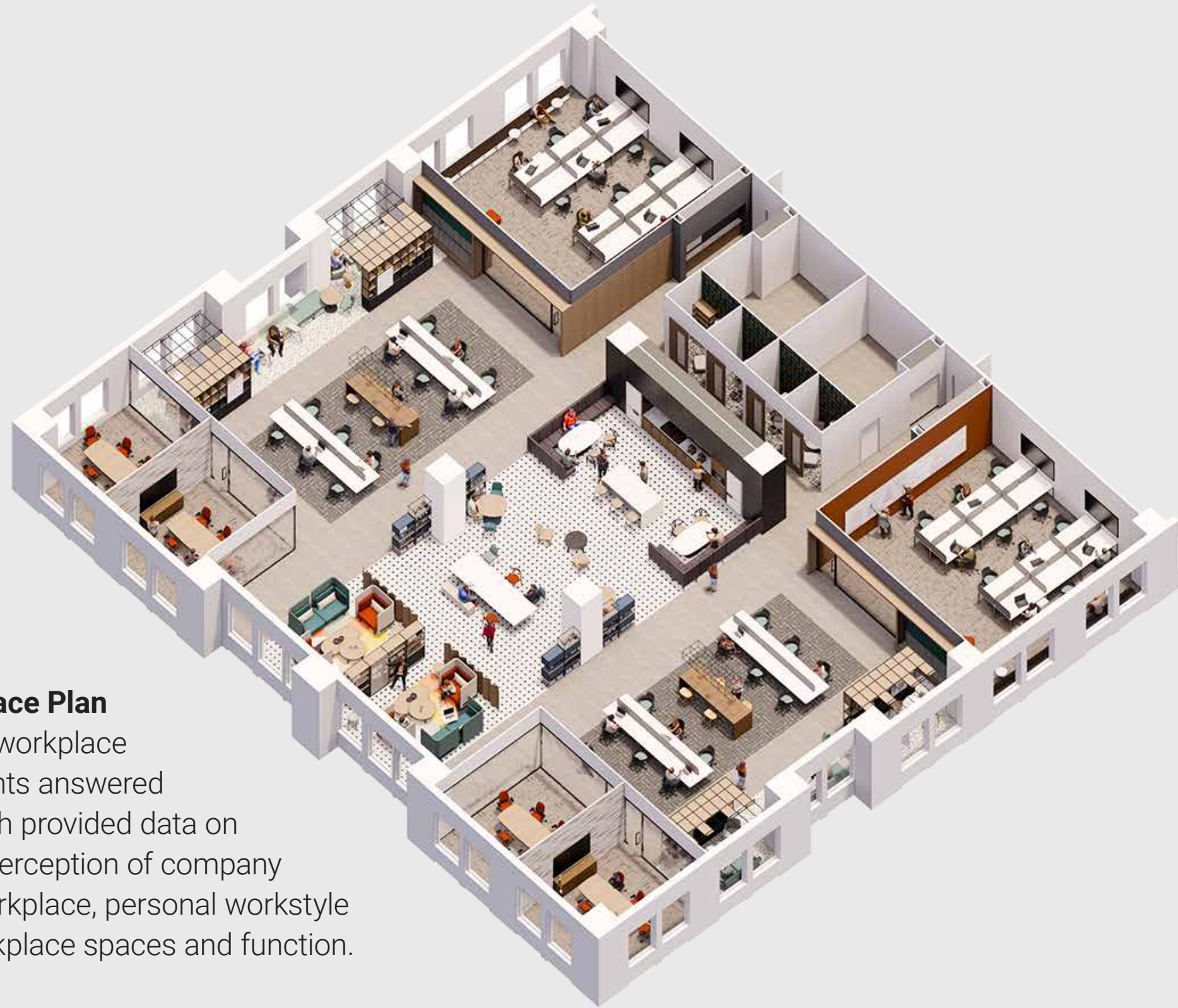
A modification?

Does this challenge the idea that the future office will be half the size and serve as a collaborative hub with flexible work-anywhere spaces? To a degree, it modifies that idea. It reminds us that people have complex and varying needs in the workplace. We also saw that workplace needs varied significantly by industry. So, we know that to effect positive change, we must design the workplace with an understanding of the unique needs of a given organization rather than an overlay of trends and assumptions.

Possibilities

Culture, technology, and workflows will all affect the level of mobility of an organization, and the degree to which it can adopt a hybrid work model. Our four hypothetical future workplaces ranged from assigned desks for all to a mix of assigned and shared seating and finally a model with no assigned desks and a variety of “touchdown” areas. In the touchdown scheme, teams reserve areas of desking and meeting spaces as needed, assuming that most work can be done elsewhere. The global results of the quiz were equally split between the four typologies. However, when we have used the quiz with specific clients, we have seen results skew heavily to one or maybe two options. This allows leadership to compare where they are to where they want to be and define a path to get there. >

Adapting to a return to the office may have challenges, but it is an historic opportunity to refocus and evolve the role and function of the workplace and create a strategy that supports the unique needs and goals of our clients. [▶](#)



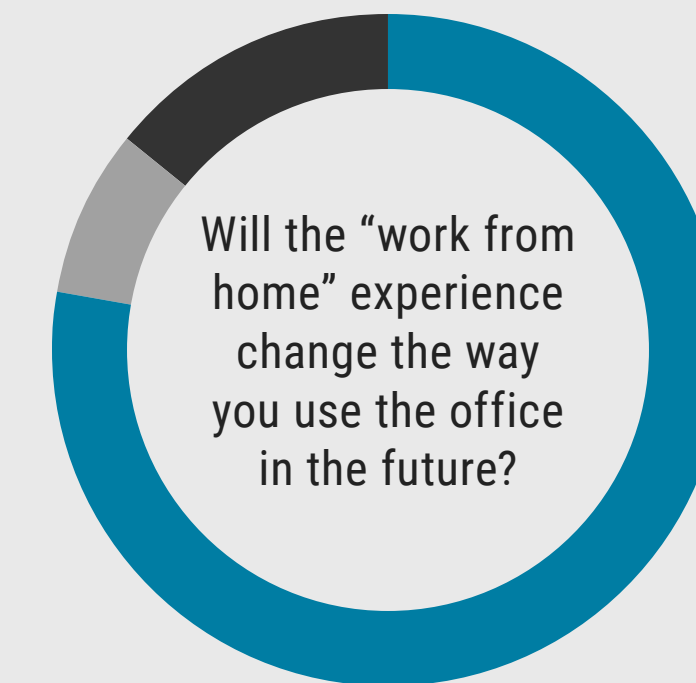
Future Workplace Plan

In the BlueSky workplace quiz, respondents answered questions which provided data on three factors: Perception of company and current workplace, personal workstyle and future workplace spaces and function.

Employees expect that where they work and how they work will change.



- 4% 0 days per week
- 43% A couple days per week
- 24% Over 50% of the time
- 28% Whenever they want



- 78% Yes
- 8% Not sure
- 14% No

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MORE WORKPLACE

Mary Sorensen As Stantec's global workplace strategy leader Mary works takes a research-driven, human-centered approach in her work with organizations and their offices.

Based in Chicago, **Angie Lee** is the global workplace sector leader for Stantec. She has decades of experience designing office environments that reflect and support organizational culture.



Kettering University New Learning Commons
Flint, Michigan

WHAT WILL CAMPUS LOOK LIKE NEXT?

Higher education institutions must meet the challenge posed by the hybrid learning model.

BY TRAVIS SAGE



Before the pandemic hit, the college campus was changing. Higher education was moving toward a new paradigm of project-based, technology-rich learning and away from the lecture hall. University administrators were looking for opportunities to create culture on campus to attract and retain students to stay competitive. Then the pandemic hit. Colleges and universities embraced remote learning out of necessity. This accelerated the inevitable take-up for hybrid learning by both students and faculty. But remote learning brought many of the challenges facing higher education to the forefront.

Technology and the expectation for hybrid education combined with the need for collaboration and social environments will shape the new campus environment. As administrators and facilities managers at higher education institutions plan for the new campus, they should keep the trends below in mind. >



Kettering University New Learning Commons
Flint, Michigan

Demand for soft skills

For years, employers have been asking universities for independent thinkers with soft skills, graduates who can work in team and social environments. Organizations want talent that can collaborate, innovate, and solve problems. The push toward collaborative, team-based learning on campus continues.

The instructor of the future

It's no longer about the lecture hall and dictation or recitation of facts and figures. Universities now see the professor as a facilitator of ideas. The educator connects the student with the resources, other people of similar interests, and the experts and researchers in the field. A working example of this model is under construction now at the [Kettering University](#). A book-free library, designed instead to offer a place for interaction and



Kettering University New Learning Commons
Flint, Michigan

collaboration where everyone from the university president to industry partners, students and professors can find resources, work together, ideate, and socialize.

Enrollment crisis

The pandemic exacerbated dropping enrollment across higher education. Whether that's a blip or a dip in the curve, time will tell. In either case, higher education needs to make a much broader set of offerings to students to make college and university attractive to them again, and then likewise to expand their enrollment pool.

The campus environment is important for the learning experience, but it's relative value in the total higher education investment by that student is changing. We will likely see a new model emerge for education as a service. It's possible that

students could pay less in total tuition for fewer on-campus/in-person credit hours, but still get a valuable learning experience. It's very fluid and each day we see new value proposals being offered by institutions to prospective students. Fee-free tuition models, and flat rate credit hour pricing are just some of the most recent ideas.

Competitive marketplace

Competition puts pressure on higher education to deliver value. The community college model has been more successful in recent years because they've reached down and up; integrating with local school districts and offering degree or associates programs that students could start earning credits toward in high school. They're able to return a value that's competitive with traditional higher education and often connect to local industries. >

Classroom utilization

Classrooms are some of the most underutilized spaces on campus. The classroom might be scheduled for a few seminars in a day and then sit vacant for 8 to 10 hours. And now that both students and teachers have become comfortable with the idea of hybrid learning, classroom utilization as usual is likely to decline. Consider the carbon footprint of a new classroom and college planners are unlikely to add them to their want list.

On the other hand, the demand for a rapidly reconfigurable classroom, fully equipped for online virtual/hybrid participation in class activities can drastically improve utilization and allow universities to repurpose less adaptable spaces for other purposes. A great example of this are the new virtual learning classrooms in the Ferris State University Center for Virtual Learning, which utilize numerous different educational technologies, moveable walls, and lightweight staging systems to rapidly reconfigure from a



READ



Design Quarterly Issue 12:
Black box theory. Career and Technical Education needs a new space type.



Western Michigan University
Arcadia Flats Student Housing
Kalamazoo, Michigan

traditional classroom computer lab configuration into a weekend eSports or Cyber Challenge competition venue.

To attract students, staff and maintain reputation, universities want to expand programs and offerings. But facilities managers are more likely to look at the academic spaces already available and increase utilization via hybrid learning rather than add classrooms. That could mean a student reports to a freshman seminar class once a month for a particular workshop with the other three weeks in a remote session with facilitated learning groups. There's a lot more economic viability to these spaces when used that way. >

Social hubs and unique experiences

Colleges and universities must offer opportunities for social connection and collaboration that a virtual environment can't match. In the near term, their hard capital investments are going to be in spaces on campus which can offer experiences that are not viable from your desktop at home. The social hub is one such space, combining housing, food and drink, and people. These hubs are where life happens, campus culture flourishes and, if all goes well, out of class learning takes place.

These hubs can also promote health and wellness. The design details for the social hub need to be informed by inclusion, diversity, and affordability to make sure these are places where all students are welcome and benefit. These spaces help establish the campus as the place to be,

to balance the study-anywhere model. They help answer the question why should a student pay X amount in tuition if they don't have a chair on campus?

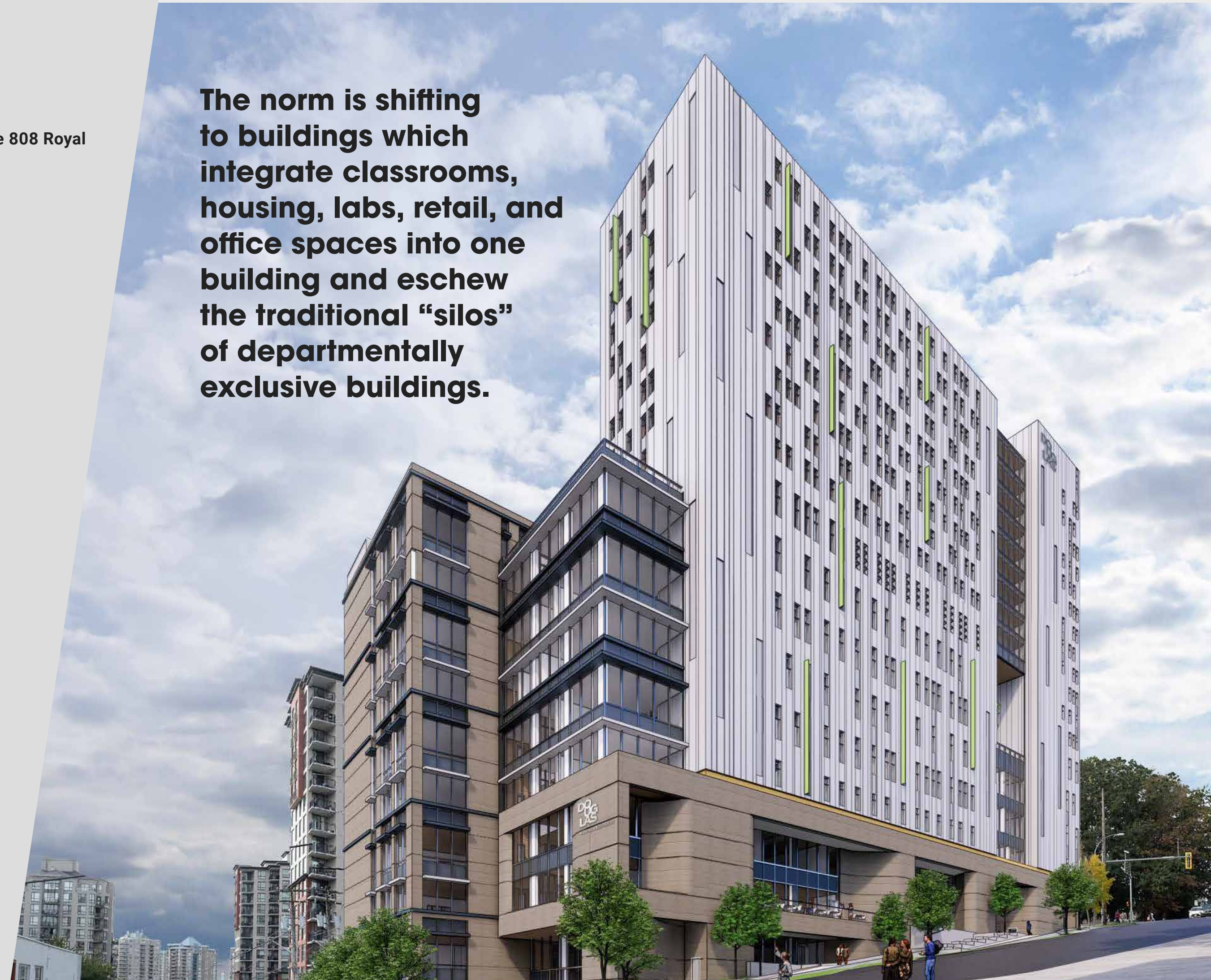
Hybrid building types

Spinning off from this quest for collaborative space are new hybrid building types. The norm is shifting to buildings which integrate classrooms, housing, labs, retail, and office spaces into one building and eschew the traditional "silos" of departmentally exclusive buildings. For example, we recently completed schematic design on a new, high-rise building for Douglas College in New Westminster, British Columbia which stacks three different types of student housing above and around two different departments of faculty offices and numerous university-wide and departmentally specific classroom and lab environments, all sharing a nine-story atrium space >



Douglas College 808 Royal
Vancouver, BC

The norm is shifting to buildings which integrate classrooms, housing, labs, retail, and office spaces into one building and eschew the traditional "silos" of departmentally exclusive buildings.



with informal learning, social, dining and collaboration spaces throughout. Universities will continue to focus their resources on the construction of project types that support collaborative, project-based learning and social interaction for soft-skills development.

Visibility

To encourage curiosity, facilitate collaboration, and to create a buzz that students want to be around, we're seeing a trend toward transparency, visibility, and interconnectedness. Visibility into and out from laboratories, collaboration spaces, and classroom environments puts those highly-specialized programs into an appealing position allowing students to explore the opportunities available to them

on-campus in a passive way, sparking new interests, ideas, and fostering an environment where cross-disciplinary collaboration can thrive. This emphasizes and harnesses the energy from group project-based learning that students can only find in an in-person campus environment.

Smaller apartments, more common spaces

Colleges want students on campus connecting with other students. So, the trend in housing is toward building student residences with more common spaces. It's about making the private space smaller and more functional while attributing more space to the social and common areas and activities.

Schools don't want students in their room with the same three roommates all semester. Living on campus is about immersing yourself in academic life, it's about discovery, social interaction, and fun. Schools want housing that's closely integrated to campus and academic life to provide a rich and diverse social experience.

While education itself absorbs dramatic change from technology integration, hybrid learning and a shift toward collaborative and interactive spaces on campus, a new and vibrant college/university experience is emerging to meet the needs of today's student. **D**



**Ferris State University
Center for Virtual Learning**
Big Rapids, Michigan



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MORE STUDENT LIFE

Studio design leader **Travis Sage** works on projects in the education, commercial, and multi-family sectors across North America from the Detroit studio.

Getting back

ROUNDTABLE

Experts in conversation about the way we get around today and tomorrow



KEN ANDERSON
TRANSIT SECTOR LEADER,
BUILDINGS
ARLINGTON, VIRGINIA

ALEX THOME
US AIRPORT BUILDING LEAD
DENVER, COLORADO

KATE JACK
SMART MOBILITY LEAD
LONDON, ENGLAND

MODERATED BY
JOHN DUGAN



After a year of shutdowns and severe interruption, transportation networks around the world are gradually ramping up service as the public resumes a degree of commuting and travel. But don't expect a return to business as usual. The pandemic changed the way communities and designers are thinking about everything from business models to transportation modes, even where we want to go (not always the office). To make sense of where transit, airport, and smart mobility are headed, we gathered three experts for a roundtable. Here are the highlights.

What did the pandemic reveal about your side of the transportation industry?

AT: The pandemic exposed a serious challenge to airport and airline business models, in that they were focused almost solely on flying. In response, airports have reset their thinking from “How do we best fly passengers in and out of our airports and capture revenue from those passengers?” to “How do we

diversify our business by leveraging our real estate assets to generate revenue and be profitable even when flying isn't possible?”

Transportation technology is advancing rapidly, COVID has drawn attention to that fact. Everyone gets packages delivered to their doors instead of going to the store. Online and delivery services boomed because we were rethinking health, safety, and our

time during the pandemic. That's further transformed airports into places that move goods around the world. Airports must see themselves as part of a broader transportation network.

KJ: From a global perspective, the pandemic accelerated awareness of everything that we believe in about smart mobility from the active travel side right up to the adoption of autonomous solutions. In the first wave of the pandemic, we saw AVs deployed to capture and transport COVID tests safely within hospitals and free up staff to do frontline.

Initially there was a downturn in micromobility as nobody could get around, then suddenly everyone thought “Let's use our individual bikes and micro scooters to get around safely” because our roads were freed up. We saw shared city bikes flatline and then absolutely rocket up, which is quite fascinating. >

Toronto Pearson International Airport
Mississauga, ON





LA Metro Willowbrook/Rosa Parks Station Improvements Project
Los Angeles, California, CA

How has the decline in ridership affected investment in market?

KA: With transit, the main metric is always ridership. During the pandemic, ridership plummeted. Most agencies lost 80 to 90%. With the vaccine things are opening up rapidly. We're seeing ridership come back 40-45% of where it used to be, and the agencies' projections for fall are optimistic.

We didn't see much of a slowdown in investment. Some agencies had money that was independent of ridership, so they had capital to do work. And any agency that has a state of good repair (SGR) project, sees that this is the time to do it because of the softening of ridership. Plus, every stimulus package and COVID relief package has had a transit component to it.

AT: The challenge that airports have is "How do you plan an airport effectively that's going to bring passengers back in the short term and make them feel comfortable?" So, there are spacing requirements and airports are pushing towards more touchless technologies.

Imagine the crowded queuing areas for TSA checkpoints when you spread people

out six feet apart. Those lines go out the front door. How do they plan for the long term, knowing we'll likely be back to closer spacing in two years?. Building in flexibility is an interesting challenge.

How much do you invest in infrastructure for the short term, with the understanding that COVID won't be around for a long time, but that something else might come up?

Airlines need to figure out how they fit in. After 911, they commoditized and during COVID, they parked their fleets of aircraft. So, now they are reevaluating the route maps, the hubs that they were serving, the destinations, even the type of aircraft that they fly. They look at fuel consumption per passenger, range, comfort, cost, and reevaluate their aircraft. Airlines need to be very efficient as passengers return. The question for transit agencies long term is, how long will it take for ridership to fully return (if it does) and how do they sustainability replace capital funding beyond the stimulus?

KJ: Public transport is the backbone of everything that we do and we've seen at least a 50% cut in the ridership. So, trying to fill those gaps now is more challenging financially. >



However, it also brought renewed awareness for people in terms of the environmental impacts of transport particularly SUVs and SOVs. It showed us that the 15-minute city can be a reality. From that perspective, it's brilliant news for micromobility awareness in the long term especially when combined with the passion local communities have for developing multimodal-friendly and pedestrianized downtowns.

What do your clients need help with?

KJ: An enormous number of proposals we're getting are about the possibilities of living outside of the city and achieving work life balance. Our local communities want to be better connected to each other and they're looking at mobility from a sustainable perspective. So instead of opting for more car parks and bigger roads, they're interested in learning which mobility solutions are available. So, our clients need a guide to the deployment of these types of solutions and what smart infrastructure that's required to do that.

We've looked at the pain points that micromobility, particularly the deployment of e-scooters and freestanding bikes, had in cities in North America. We look at deployment and infrastructure and how best it will benefit a community, an overarching plan for mobility design development rather than just the private sector placing these vehicles where they see opportunities. We make sure these programs are implemented safely and responsibly for our clients and that they meet the need where it is greatest (in transport deserts, for example).

One thing that the pandemic revealed is that the transit systems are largely set up for commuting, what about other kinds of trips and how has this influenced projects?

KJ: Mobility hubs have become mainstream for us as a client requirement. The smart mobility hub offers you options for that last mile of your trip at a point of transit or a station. The adoption of electric bikes, electric scooters, and the infrastructure required is becoming a higher priority.

Alongside that, we're thinking about what else can be combined at the mobility hub, what else is there when you arrive at that place. For instance, we're working on designing small office hubs next to the smart mobility hubs so that you can meet people and spend time with people in a work environment, but you don't necessarily need to go to the office to work.

People moved to second tier cities during the pandemic. Do these cities need to spend more money on transit?

KA: They do. It's all interconnected. People are moving to second tier cities for reasons including cost and work-from-home policies. So, both the first and second tier cities need to look at their service and social distancing. As we get more ridership, there's still a social distancing component within the buses or trains and that's likely to stay a little while longer. Some agencies are adding more service to handle the projected ridership returning. But instead of one bus handling 30 or 40 riders, they're looking at two buses doing it, which means more operators, more staff, more maintenance. A lot of agencies are hiring now. >

KJ: Yes, smaller cities have a better opportunity to build transit because they can take the lessons from the big cities. Jersey City and some communities outside Chicago are growing, for example, but the cost of putting in a new train station or a new tram can be prohibitive. Because of the smarter technology that we have available, we can lay out a comprehensive plan as to how to deploy solutions gradually and ensure public reception will be there. Instead of looking at disruption, we're looking at areas where we can add value, things like autonomous vehicle rapid transit, an upgrade that doesn't require enormous additional infrastructure. "Build it and they will come" was an interesting methodology, but it's not particularly suited to the 21st century.

What technologies are influencing transportation in your world?

AT: The industry is developing electric aircraft which can take-off and land vertically. With eVTOL electric aircraft, the airport won't need as much land and the aircraft will be quieter and won't pollute. Thus, airports can look at becoming

smaller and more seamlessly integrated into urban centers. This technology can serve like more of a 'taxi' and will allow them to tie into broader transportation networks.

Technology is also forcing airports to think about their business models, and a shift towards goods and passengers. Airports are leveraging their land to become part of broader manufacturing and distribution streams, so we're going to see things like end-to-end manufacturing setup and processes at the airport. The idea is that a product is developed and manufactured at the airport and it'll get put in a plane and go right to its destination from the airport.

A year back, we were talking about more touchless technology and cleaning protocols because of the virus. What kind of technologies are we seeing now?

KA: With the vaccine, the urgency behind implementing these solutions has diminished a bit. But, the touchless technology for ticketing at stations and communication between operators and dispatchers makes sense operationally and provides flexibility.. And the UV



Toronto Pearson International Airport
Mississauga, ON

cleaning will probably continue in some form on buses and trains.

AT: Touchless is one of the keywords and airports are looking for ways that a TSA agent does not have to touch your passport or your ticket. The traveler might use a smartphone or self-scan, to minimize objects being passed back and forth and germ exposure for agents and travelers. Then, there's biometrics. The Vancouver Airport developed a biometric technology for their Customs and Border Protection area for their international arrivals.

Regarding disinfection, they've developed an autonomous vehicle that can be deployed in a plane. It travels the aisle of the plane emitting UV light and kills all the germs on exposed surfaces and in the air.

What about the actual technology for transportation?

KA: The other part of tech is the vehicles themselves. We're seeing agency after agency look at zero emissions buses, battery electric buses, and technologies such as hydrogen. This is driven by zero emissions mandates from some >

states and continually improving battery technology. In some cases, current Zero Emissions Buses (ZEBs) can't meet all needs, so agencies are still looking at hydrogen and CNG (compress natural gas). They are using stimulus money for fleet upgrades and fleet retrofits. And those that already have electric buses are investing in facilities upgrades and improved charging technology.

Beyond ZEBs, what are some other ideas being looked at?

AT: The industry is not only developing vertical takeoff and landing aircraft, they're working on rocket-like long distance aircraft to fly very fast at high altitudes. Biotech companies are developing net zero carbon jet fuel as a short-term sustainable solution for existing jets. In Texas, they are investigating the Hyperloop to connect cities as quickly as air travel and the station will be in the middle of town.

KA: Maglev is an approach to higher speed rail that has been used

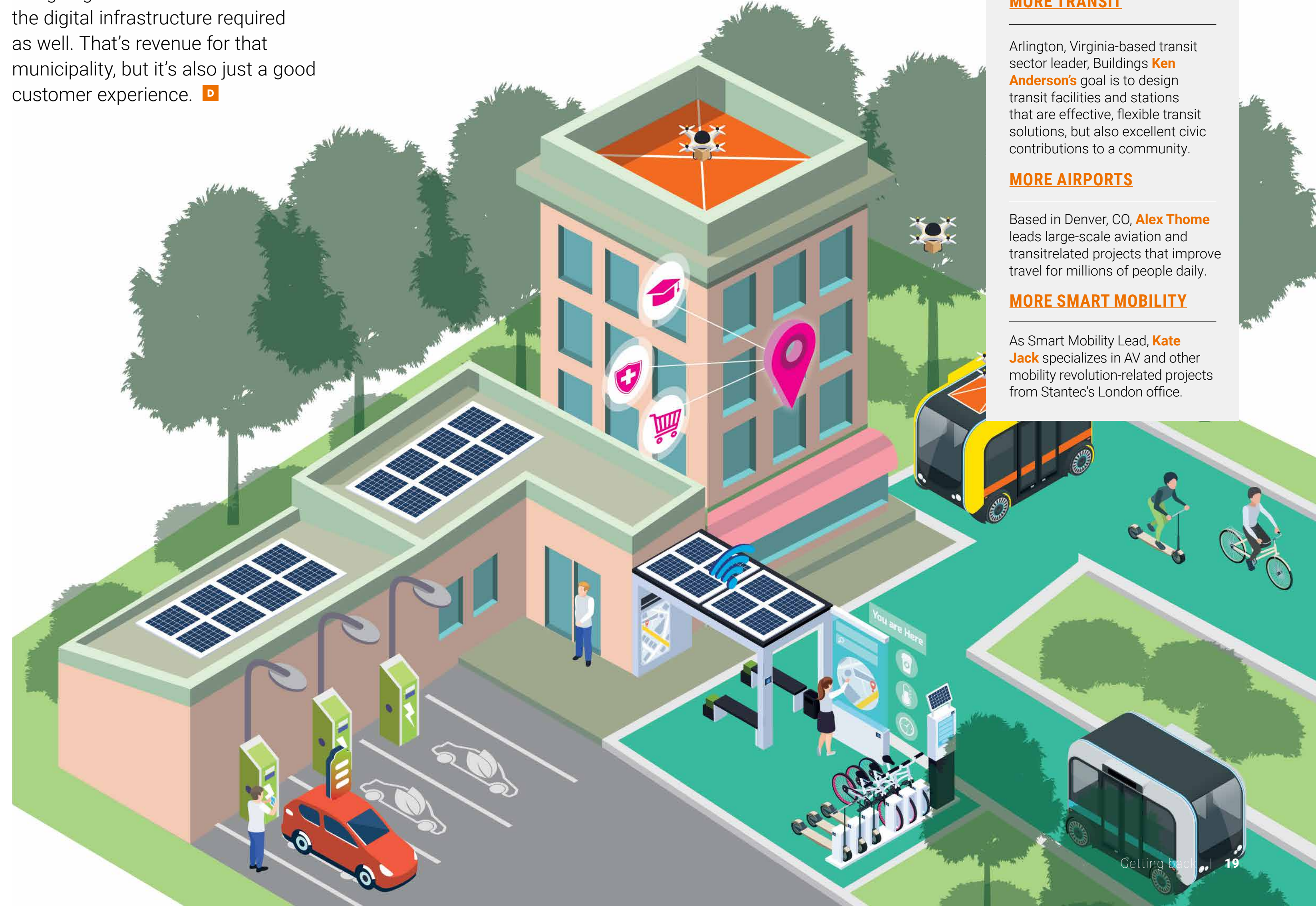
in other countries and it's being looked at in the U.S., but it will need investment at the federal level. There are also some nontraditional ideas that we're seeing cities explore, like gondolas from one side of a river to the other, that are fascinating as an economical and effective way to move people from place to place.

KJ: The awareness of and the capability of autonomous vehicles is greater than it was. However, the money to deploy it is still in question, and there's a lot of consolidation in the AV industry. So, we're doing mobility planning with AV in the background.

We're seeing more flexibility in the types of ticketing transport providers are producing. From a smart mobility perspective, we want to integrate all the various solutions into one with one platform where you pay one price for one journey. There must be some restructuring in revenue collection. We have the data and capability to be able to create new products that will be able to deliver them the revenue that they

need from this multimodal system, designing the infrastructure and the digital infrastructure required as well. That's revenue for that municipality, but it's also just a good customer experience. **D**

Multi-modal transport hub with mixed-use building concept



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MORE TRANSIT

Arlington, Virginia-based transit sector leader, Buildings **Ken Anderson's** goal is to design transit facilities and stations that are effective, flexible transit solutions, but also excellent civic contributions to a community.

MORE AIRPORTS

Based in Denver, CO, **Alex Thome** leads large-scale aviation and transit-related projects that improve travel for millions of people daily.

MORE SMART MOBILITY

As Smart Mobility Lead, **Kate Jack** specializes in AV and other mobility revolution-related projects from Stantec's London office.



Setting the stage for messy vitality

Malls that offer more will thrive.

BY DANIEL AIZENMAN

Malls are important, they're some of the most visited places in our communities, frequented by billions of people around the world every year. To survive, however, they need to become places that are about much more than retail transactions.



Mitkah
Mexico City, MX

Malls are in decline.

Hundreds of American malls shuttered after the recession of 2007. And retail researchers estimate 25% of America's roughly 1,000 remaining large malls will close over the next three to five years.

What happened?

Malls rely on department stores and hero retail tenants as anchors that draw people and support hundreds of other retail tenants nearby. These anchor tenants didn't anticipate how online shopping would compete with their mall presence. In many cases, they didn't adjust to omnichannel or improve the physical customer experience to remain essential and competitive. Late to adjust to a new online shopping reality, they saw a decline in the customer experience, traffic, and sales.

Right now, the industry is in turmoil.

The pandemic, which closed malls temporarily and pushed consumers to ecommerce and overnight delivery, has

Mitikah
Mexico City, MX



accelerated the downward trend for retail malls. What we thought would happen over the next five or ten years is happening now. The once stalwart retailers who were formerly reliable anchor tenants are now entering bankruptcy.

[UBS researchers say that 9% of the 80,000 retail stores in the U.S. will shutter across the country by 2026.](#) They predict ecommerce sales will rise to 27% of the total retail sales by then, up from 18% today. Bad news for retailers signals bad news for struggling malls and will eventually drive significant openings in mall real estate.

Why malls still matter

But malls are highly public environments. For communities that don't have urban or historic downtowns they function as a heart and central gathering place. They're the closest thing to a public forum, a place to see and seen. When the mall starts to decline, these cities and towns lose a gathering space, not to mention the businesses and jobs around them. But malls are not going away completely, they have a lot going for them. They're well located and still suited to provide incredible experiences. In fact, the decline of the traditional mall represents an opportunity. >

Opportunity to shift

Many of the malls that remain have lost their anchor tenants and hundreds of surrounding lessees.

This may sound bleak. But it's also a chance for mall owners to refresh and redevelop. Freed from leases, in the extreme case, they can "demall," take out a department store or anchor tenant. This unlocks all kinds of possibilities for serious redevelopment.

Phenomenal candidates for redevelopment

Malls have a lot going for them as places with assets and infrastructure, sometimes even public transport access. They are semi-independent properties in the sense that they have their own infrastructure including access to water, power, plus lots of parking. Malls are well located in extraordinary properties around the country, often at the corners of two well-traveled highways.



Fox Valley Mall
Aurora, IL

Reuse

It's a tumultuous time. Whomever falls asleep at the wheel will lose out. The owners that are taking initiative will win in the long run. Some owners want to simply demolish and begin again. Because of its all-weather access, the indoor mall itself as a sort of a conglomerate of stores and an enclosed environment with a food court (reborn as a food hall) will continue to be a relevant model. But it won't look the same. The model for redevelopment will depend on what the local market can support.

Content and messy vitality

When it comes to the future of malls, content is king. Content refers to the look and feel of the space, but also what happens there. Content comes in the form of art, patterning, people, places, information, entertainment, culture, video events, data, sound, hospitality, and texture. As Robert Venturi said, "I am for messy vitality over obvious unity." This messy vitality characterizes places where life happens. Malls need to become places that are messy, engaging, vital to succeed. >

If it's not about retail, what's it about?

So the war is over. Overnight delivery won, and physical retail is no longer about the distribution of goods. The physical store is about building brand equity—it's a place where brands make a personal connection with the consumer. So, the mall itself needs to build brand equity—a memorable connection with the consumer that communicates quality.

Our design work for malls and retail outlets has shifted to focus on storytelling, interweaving elements that emotionally connect people to place.

There are new ground rules for malls to create vitality. >

Potsdamer Platz Arkaden
Berlin, Germany

THREE CRUCIAL ATTRIBUTES FOR MALLS



1. CONTENT IS THE NEW ANCHOR.

Bringing in content is a critical solution. It's about fulfilling people's needs in multiple ways beyond the usual goods and services—this can be expressed in everything from design to events. Content should be sustainable, promote wellness, inspire, and ultimately add value to people's lives.

2. EXPERIENCE IS THE BRAND.

There's nothing worse than a sea of sameness throughout a 2,000,000 square foot environment. It's deadly for the imagination, it doesn't engage. So, it's critical that these malls offer visitors a series of experiences—a journey from one side of the mall to the other.

3. FOOD, BEVERAGE, AND ENTERTAINMENT ARE THE MAGNETS.

Food and beverage services are critical for malls. Malls that don't invest in creating an extraordinary food presence and entertainment are going to die. They'll need to devote upwards of 30% of their leasable area to food and entertainment, which is a huge lease strategy shift.

Repurposing and mini cities

Repurposing anchor spaces in malls as gyms or for healthcare clinics is possible and many will do fine. But we're also seeing a trend emerging for temporary uses within vacated anchor spaces—think pop-up events, exhibits, or seasonal retail. But there are other solutions that are completely new uses for the space that may require us to tear down the anchor tenant or big box and rebuild. Sometimes it's not feasible to redo an existing box.

We will see entertainment, coworking, hotels, offices, even residential in the mall—any use that draws people inside. Mall redevelopments are primed to solve a lot of the residential needs of cities. After all, there's a lot of land devoted to many of these malls, and all the infrastructure is in place. By varying the uses and bringing people in you're creating little cities. To hit critical mass, they need uses like grocery stores, another anchor that can pull more people into these places.



Malls have been among our most popular public environments for decades, connecting with millions of people every year. Malls that can add value to our lives will be the places we want to be associated with, the places we come to and stay awhile because they're about more than completing a transaction. Rather than lamenting the demise of what was the retail mall, we're invigorated by the opportunity to reimagine what they could be—essential, vital, and engaging places once more. **D**

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MORE MORE RETAIL, HOSPITALITY & MIXED-USE

Daniel Aizenman creates tangible, memorable connections for the end user in designs for resorts, retail, mixed-use development, healthcare facilities, sports and entertainment, urban districts, and corporate offices.



THE JOY OF RECYCLING

Building reuse can be sleek, stylish, and profitable.

BY CHRISTINA VILLA



 **The Ritz-Carlton Residences** Miami Beach, FL
Photo: Nickolas Sargent and Kim Sargent of DBA Sargent Photography
Design Architect – Lissoni & Partners; Architect of Record – Stantec

There are good reasons for adaptive reuse of buildings, from the embodied carbon savings to preserving the historic character of a façade. Often, however, building reuse simply makes sense from a business and zoning perspective. In the case of the Ritz Carlton Residences Miami Beach, the former Miami Heart Institute, financial viability was the primary driver for an adaptive reuse project. The reuse strategy posed dramatic challenges for the design team but it also demonstrated how inventive design can be transformative.

Stantec took on the task of converting the former hospital into a luxury residential complex by transforming six hospital buildings

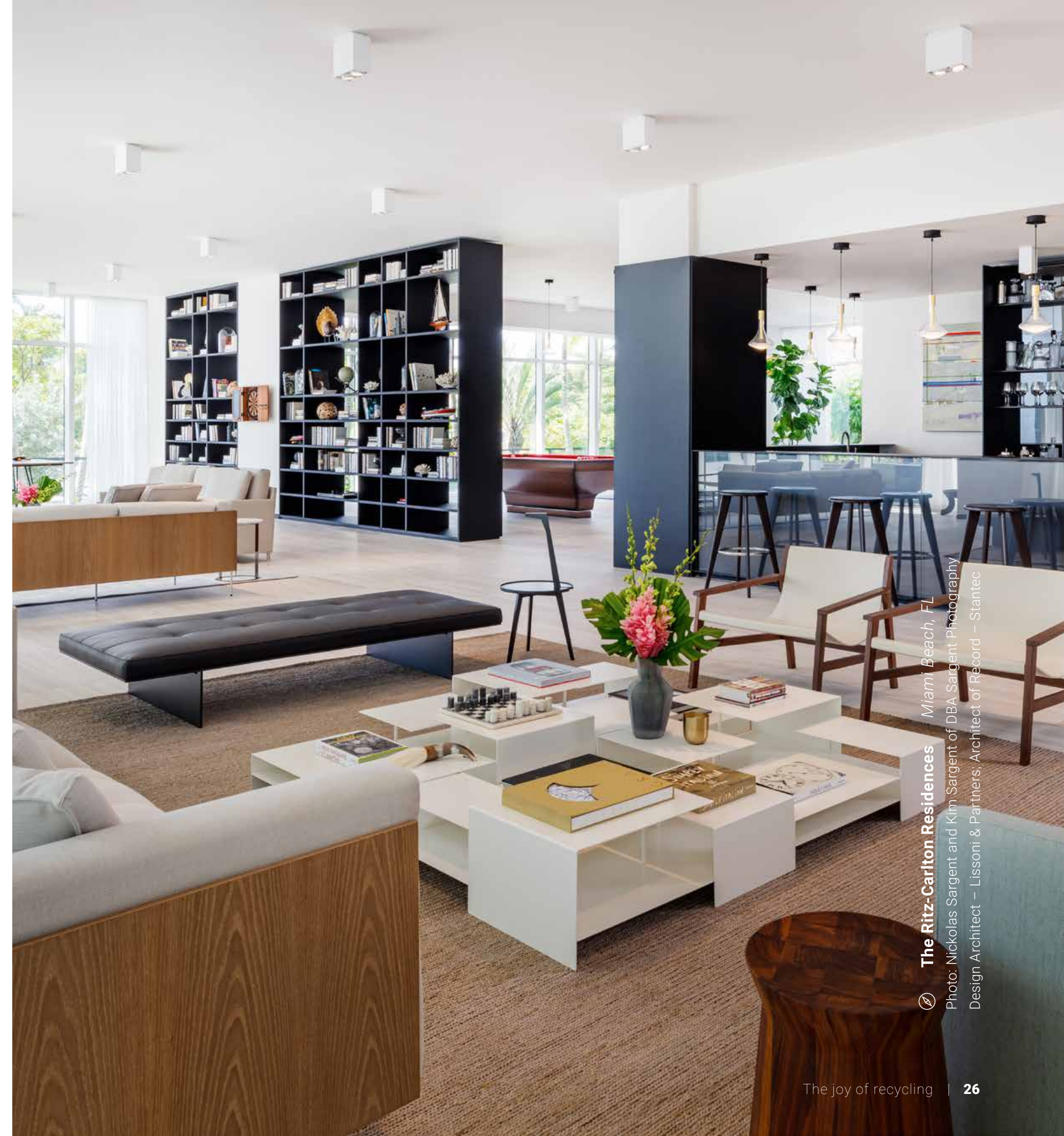
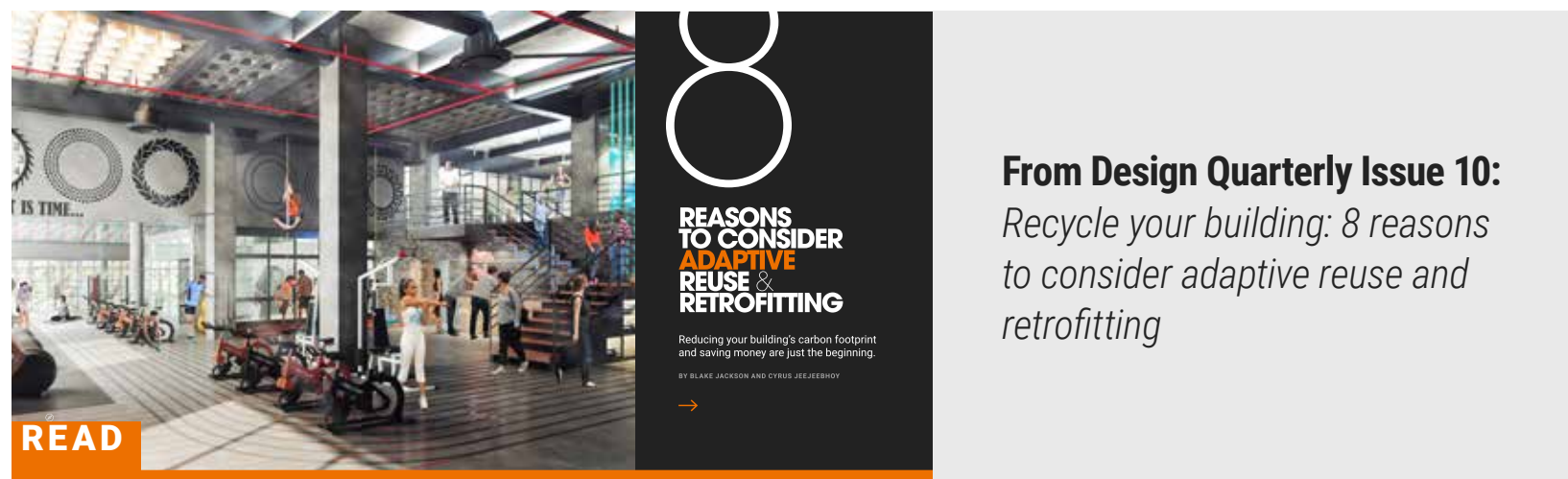
totaling approximately 678,000 gross square feet into a modern multi-family housing development.

The Miami Beach site was previously the King Cole Hotel, an oceanfront health hotel getaway in the 1920s and then a military hospital during WWII. The hotel was demolished in 1965 to make way for the Miami Heart Institute which expanded to six structures by the time it was acquired by the Mount Sinai Medical Center, which, in 2005 consolidated its operations elsewhere, leaving the substantially obsolete medical campus vacant.

When it acquired the buildings, the new developer faced a

conundrum. The maximum height for new buildings is limited to four stories in the area. If it tore down the overbuilt site which reached 12 stories at points and started new, it would have far less square footage for development. If it reused the buildings however, it would be able to keep the taller structures and develop much more space. Space equals revenue. The business case was clear. Keep the building and opt for adaptive reuse. Our community outreach indicated enthusiastic support for a residential development rather than a healthcare function. To make the numbers work, the buildings would have to be reused as a luxury residential development—an easy sell since it occupies some of Miami’s most prime oceanfront.

While the project itself was unique in scale and location, its challenges are emblematic of the quirks that designers face when engaging with building reuse and there are good lessons to learn from our design strategies to overcome them. >



Miami Beach, FL
The Ritz-Carlton Residences
Photo: Nickolas Sargent and Kim Sargent of DBA Sargent Photography
Design Architect – Lissoni & Partners; Architect of Record – Stantec

CHALLENGE

PREVIOUS BUILDING USE

While some reuse projects want to preserve history, this one was about starting new and moving forward. Our design would have to create a powerful and fresh identity for the complex which had been known for healthcare for generations. Ideally, it wouldn't remind the community of its previous use at all.

STRATEGY

CREATE A NEW IDENTITY

The renovation would have to transform a hodgepodge of outdated hospital buildings into contemporary residences with luxury appeal. Stantec, as architect of record, teamed with design architect Piero Lissoni out of Milan to create a dramatic new typology for Miami's very competitive and style-aware condo market.

Lissoni & Partners took Stantec's layouts and overall planning and designed the interiors for the common areas, made the finish selections, and chose the millwork and signature design elements such as the front desk. The architectural massing we created served as a canvas for Lissoni who selected cladding and exterior design.

Together, our efforts were governed by an architectural logic which resulted in a set of design decisions that surgically transformed a large-scale building mass into an attractive and composed set of discretely shaped smaller buildings—a medical campus transformed into something evoking a modern Italian hill town.



CHALLENGE

MONOLITHIC LARGE SCALE

The institute was enormous, as if a thirty-story skyscraper had been laid on its side. The buildings forming the complex were scaled for healthcare, not residential, so rather than typical residential floor plates of 65 feet, some areas were 200 feet deep.

STRATEGY

REDUCE THE SCALE AND MASSING

To bring the buildings down to a human residential scale, we looked at the locations of the supporting columns and carved out bays of concrete and floor slab to minimize the depths of those floor plates without impacting the building structure. The architectural massing gave the building a more organic shape while maintaining the columns. In the process we maximized light and views for the new development's eventual 111 units. >

CHALLENGE
A HODGEPODGE OF BUILDINGS

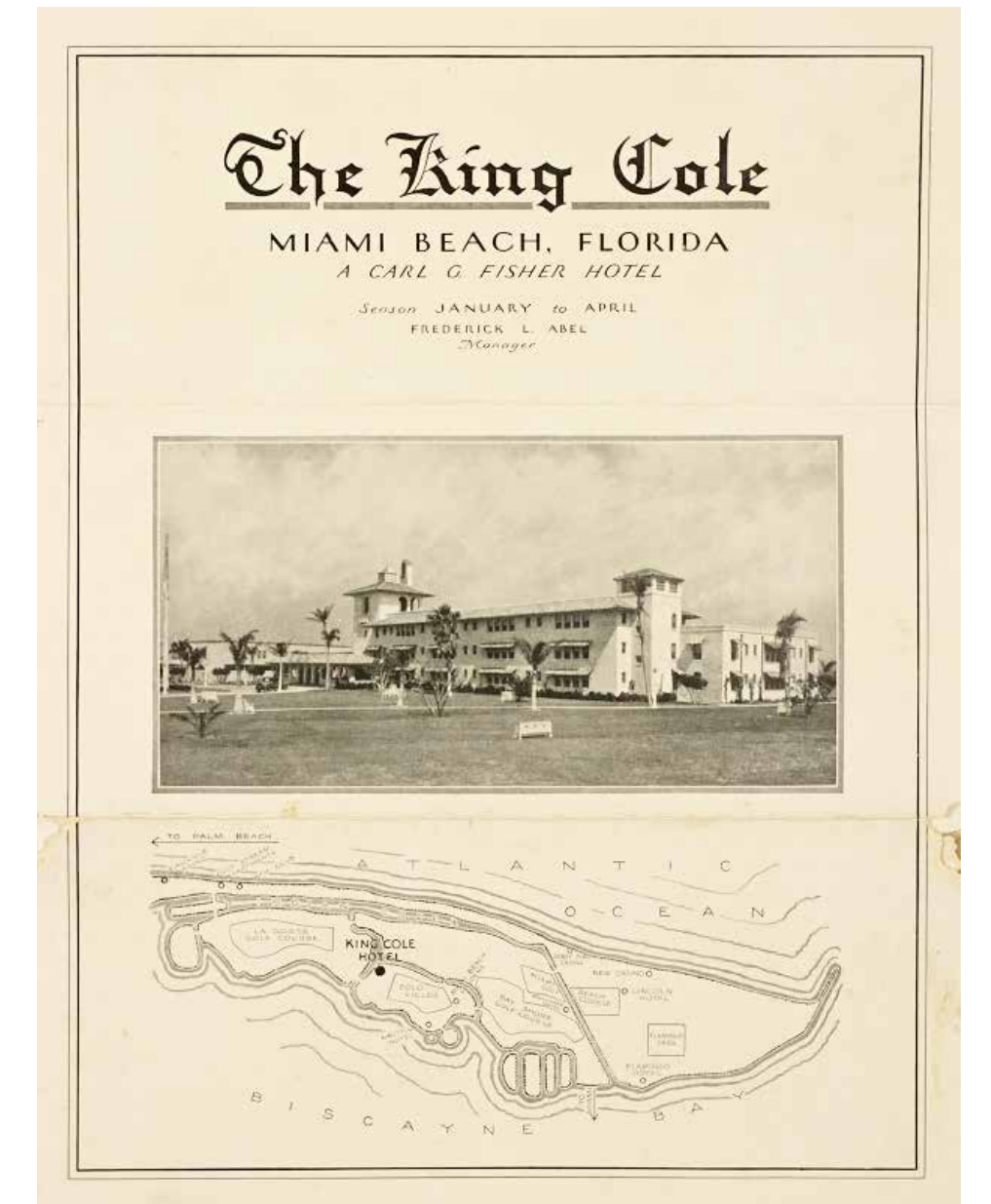
Miami Heart Institute looked like one massive building, but was actually comprised of six structures built years, even decades apart. While they abutted each other, their floor slabs were at different elevations, and their structural systems varied from precast to cast-in-place to waffle slab. This made a uniform approach to the renovation impossible.

STRATEGY
VARY THE ARCHITECTURAL LANGUAGE

Once we broke up the massing of the building, we decided to incorporate multiple architectural languages into the complex so we could offer some variety and make its vast areas distinctive within the whole. Maximizing the square footage available was a key driver for our design but reducing the visual massing of the building by breaking it down into

different architectural languages for community fit was also critical.

So, while the overall aesthetic for the project is very tropical modern, we created variations within that. We developed different languages for the transitional areas between the building elements to break up what had previously appeared as one structure into smaller visual components. For one building, we designed a vertical aluminum features and patterned elements throughout the facade. On another, we created horizontal framed panels and a distinctive pattern throughout the building. The 12-story center tower has its own architectural language with wraparound glass distinguished by cantilevered balconies. And then the smaller buildings between the two larger ones feature a frittered pattern on glass railings. By achieving a more natural scale and materiality the Ritz-Carlton residences feel like a village neighboring a residential area, not an imposing institution.



CHALLENGE

MULTI-TIERED, MULTI-FOOTPRINT FLOOR PLATES

The idiosyncratic series of buildings meant that every single floor had a different footprint. The floor plates did not stack uniformly and were varied structurally. Columns and beam conditions varied from building to building and floor to floor.

STRATEGY

ADAPTING TO CHANGE, ORGANIC DESIGN

The tiered nature of the existing building complex created a planning challenge. Structural beams at every level were different, if we had one beam condition in this corner of the building on the second floor, it was sometimes completely different on third and up. Change was constant during construction, so to contend with the varying conditions, we had a team of five people doing construction administration on site. But the idiosyncrasies of the buildings gave designers the opportunity to produce organic and unique designs, resulting in 64 different residential unit types, and spectacular oversized outdoor terraces for many units. >



"Once we broke up the massing of the building, we decided to incorporate multiple architectural languages into the complex so we could offer some variety and make its vast areas distinctive within the whole."

The Ritz-Carlton Residences Miami Beach, FL

Photo: Nickolas Sargent and Kim Sargent of DBA Sargent Photography
Design Architect – Lissoni & Partners; Architect of Record – Stantec



CHALLENGE

CONTEXT

The long horizontal complex met the surrounding residential area as a huge, uninviting, and institutional grade wall.

STRATEGY

BE A GOOD NEIGHBOR

The Miami skyline inspired us in our design collaboration which celebrates and opens to the waterfront. The project's minimalist design blurs the line between indoor and outdoor living and each residence looks toward the landscape with framed views of Miami and Miami Beach.

To ease the transition between the large-scale village of residences and the surrounding neighborhood,

we rerouted the access road and designed a semi-public park as a buffer zone between the neighborhood and the complex.

Today, the Ritz Carlton Residences Miami Beach serves as a model of architectural adaptive reuse. This project shows us that even under complex and challenging conditions, building reuse projects driven by financial considerations can achieve a great deal with thoughtful design approaches. **D**

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MORE MULTI-FAMILY RESIDENTIAL

Based in Miami, [Christina Villa](#) has a passion for architecture projects that positively impact the community.

The Ritz-Carlton Residences *Miami Beach, FL*

Photo: Nickolas Sargent and Kim Sargent of DBA Sargent Photography
Design Architect – Lissoni & Partners; Architect of Record – Stantec



Virtual design studio
concept rendering for
tower project
Fort Lauderdale, Florida



Q
&
A

ASK AN EXPERT:

Leveraging the virtual design studio

Working from home while pursuing a design-intensive opportunity might not sound ideal. But as architect **Andrew Burnett** and designer and project manager **Lee Warren** discovered, through assembling an ad-hoc virtual design studio to generate and evaluate design ideas, remote collaboration can be a powerful design tool.

INTERVIEW BY JOHN DUGAN

Q Some digital design collaboration was already being done by our global teams in BIM environments, though not from home. Has the pandemic accelerated this opportunity to explore designing remotely?

ANDREW BURNETT: Definitely, but honestly, none of us had a choice. For designers, there is constant evolution in the way that we work, we're always adapting to new technology that reshapes our workflow. The pandemic really put fuel in the tank for that change.

We were surprised in that things worked so well. Technological capability is always increasing, but some of us worked under the assumption that we can't completely trust technology. That it could fail us. Then, 22,000 people go remote in one week and wow, everything is working. We could see the value of the investments in IT infrastructure. In the Miami office, work

resiliency became critical after experiencing Hurricane Irma. We gradually switched almost everyone to laptops so we could work remotely after a storm event. So for us, that working resiliency was already in place.

Q What have you learned from this year's remote collaboration?

AB: As designers, we assumed that it's not possible for us to work remotely and be creative. We rely on interaction with each other, feeding off each other's energy and trading sketches. We assumed that we'd be unable to bounce ideas around remotely and that the design quality could suffer.

Instead, it's been a success story. We've had to be our most creative during what we thought were the worst possible conditions for a design studio. We have been

tested, thrown off balance, but it's put us in a stronger place.

The virtual design studios and charrettes that we held proved that working remotely was not the worst condition for a designer. There are aspects of it that sharpened the designers.

Most importantly, you spend more time on communication, so it becomes more conscious, purposeful, and crafted. We saw junior designers putting together great presentations of their early sketching work and clarifying their concepts so they could explain it over a Teams meeting and get their idea across.

Q Tell me about the moment when you realized that you needed a virtual design studio.

AB: We were working on a very large, multi-tower project in

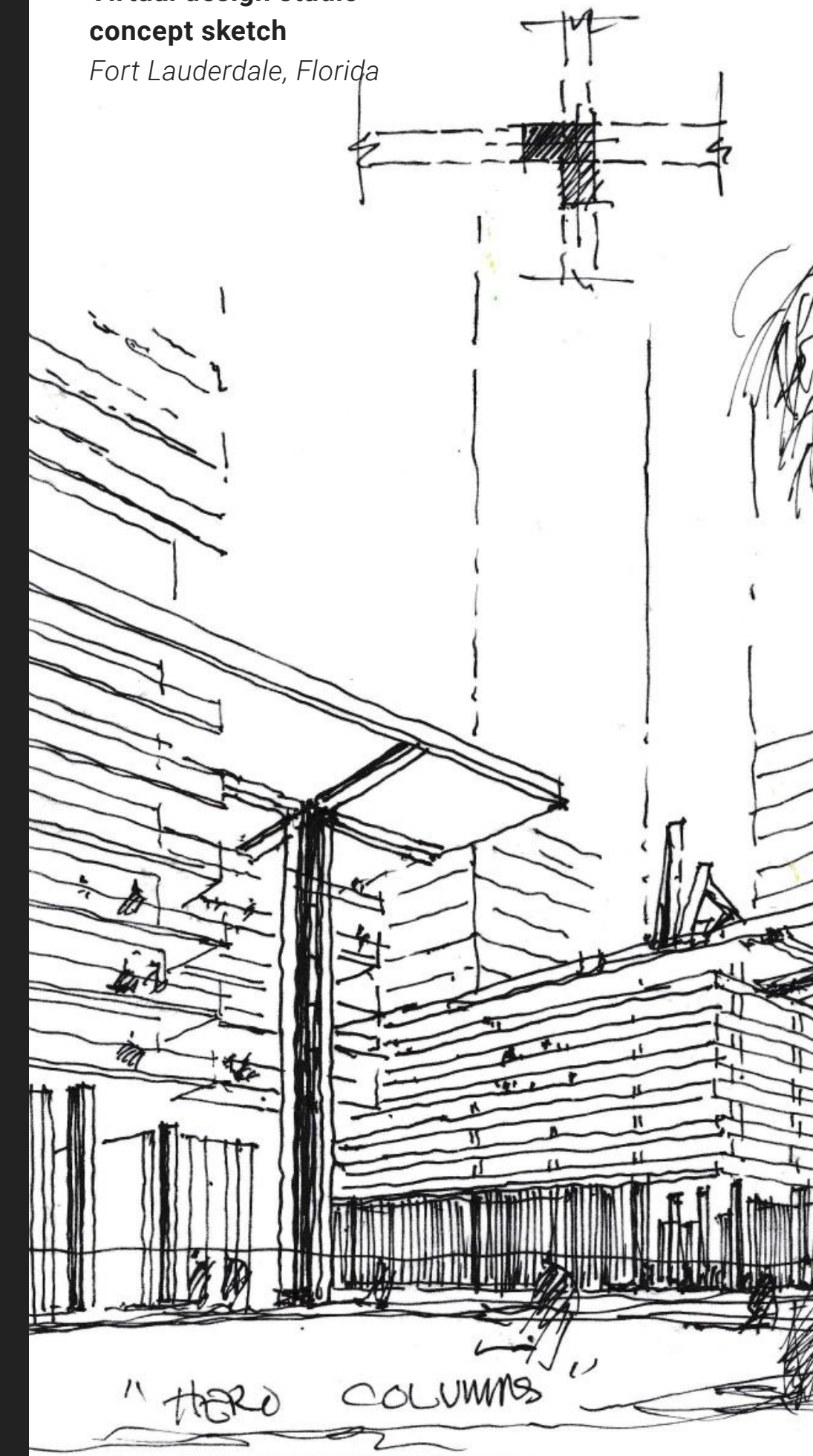
Fort Lauderdale, Florida with a developer, doing site test fits. They planned to hire another firm as the design architect and to retain Stantec as the architect of record. We helped the client look at that original design proposition and rationalize the program, the parking, and the pricing. Eventually the client realized that the scheme they had would never work.

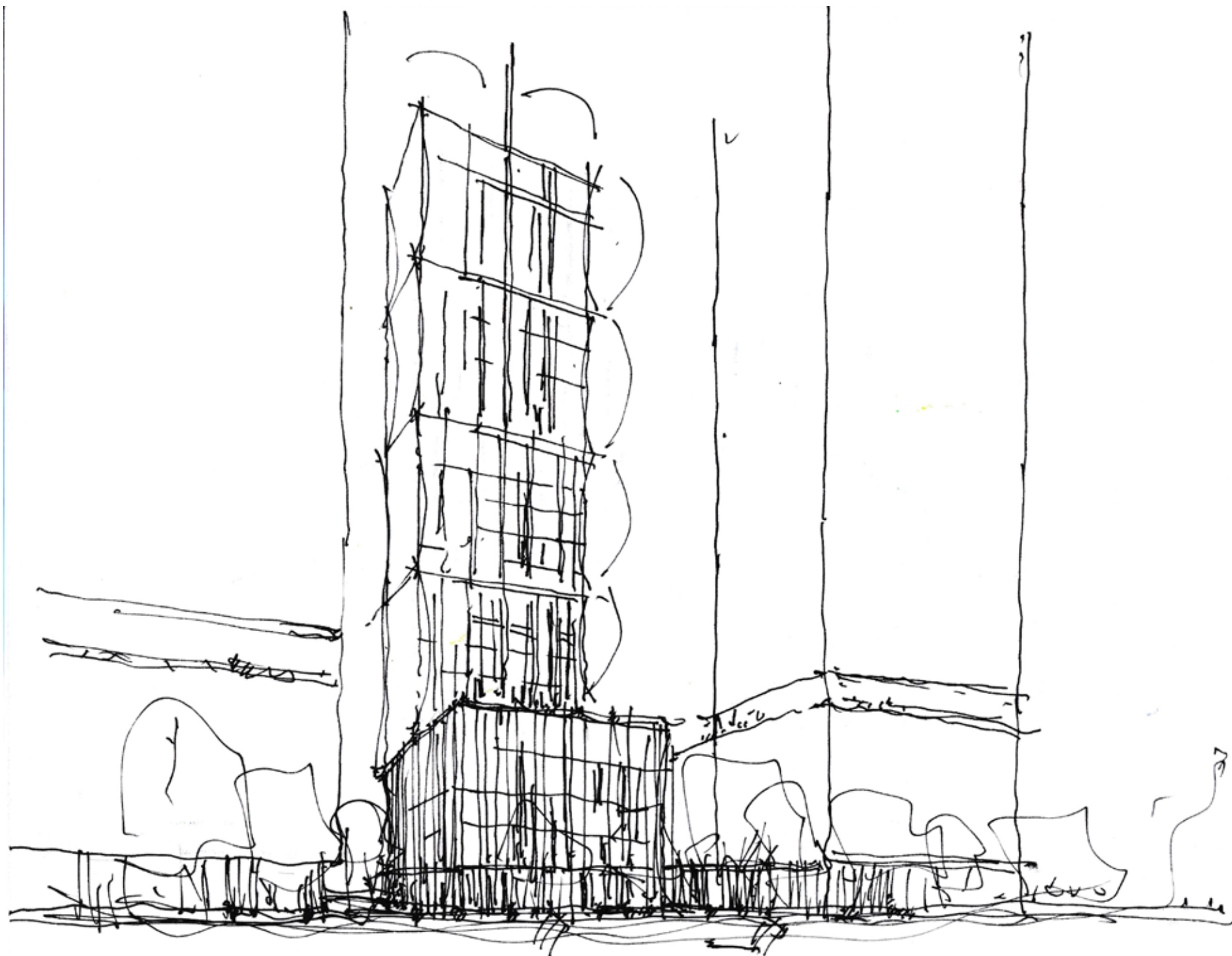
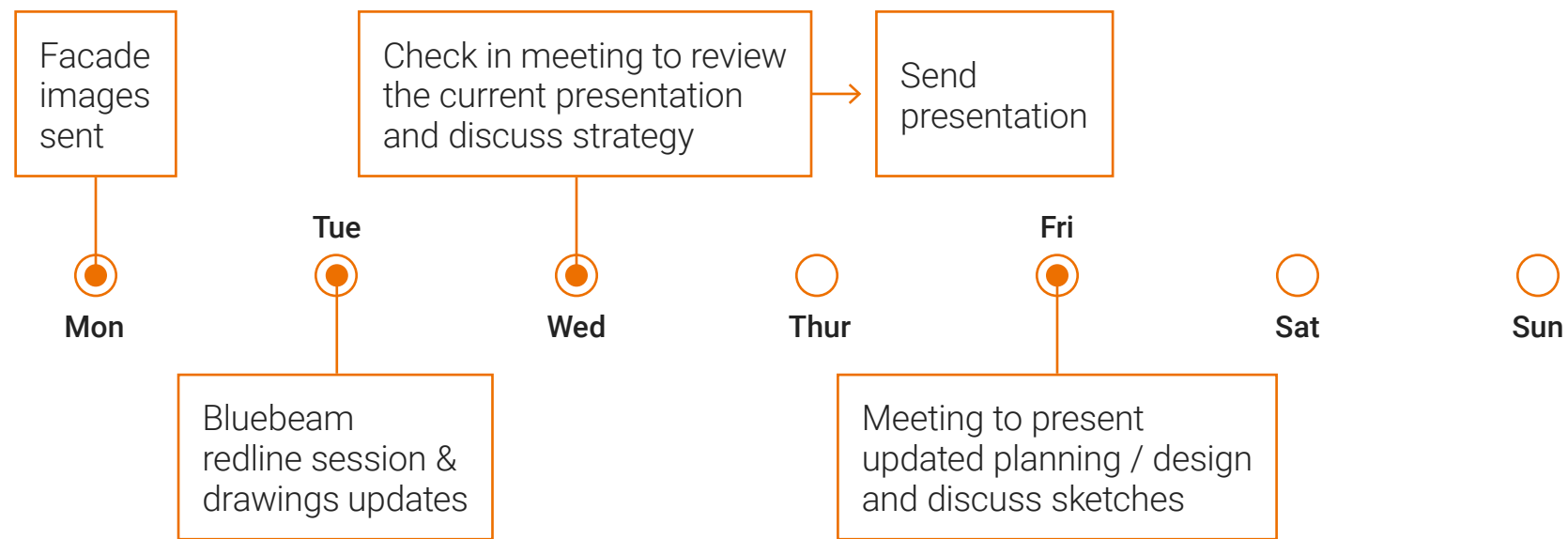
The client knew us for our infrastructure work in New York, but we had to show them we could produce iconic design. They said, you always make us look good. We want to give you the freedom to design. Make it inspirational, compelling, and design something that makes sense to build from a financial point of view, then this four-tower project in Ft. Lauderdale will be yours. But there was a twist, we only had a week to deliver.

Of course, we said no problem, we can do something in a week. >



**Virtual design studio
concept sketch**
Fort Lauderdale, Florida





Q So, what did you do?

AB: We thought the best thing we could do would be to get as many people involved across a larger virtual design studio as possible—to generate a lot of different ideas very quickly. We have the infrastructure and the talent to do it. I paced around my backyard making calls to put together a team.

We tapped Michael Banman from the Winnipeg studio and Arturo Vasquez from San Francisco, their teams, plus our teams in Miami and in Orlando. Everyone jumped right in on a Friday. We gathered people over the weekend that could contribute. On Monday everyone hit the ground running. By Wednesday, we were showing early design sketches and options to get client feedback. We developed those ideas through the weekend and presented it on the following Monday afternoon.

We developed three options. Eventually, we narrowed it down to one, and developed the program, metrics, and renderings. We sold our client on the idea and continued from there.

There's no way you can get that creative diversity from one mind, one place or even one studio, especially in that amount of time, no one had to do the heavy lift alone.

Q How did the client react?

AB: Our client told her partners that she was impressed with the work and it made her feel like she did when she was in architecture school. That's what we want to project—that moment when we're open to other ideas, most curious, and most productive.

If you can approach your design with that creative curiosity, combined with wisdom and

experience, then you have a really powerful design studio. The black cape solo design approach on major projects is not sustainable. A new approach, one that relies on the creative intelligence of a large group working together, a multi-generational studio, is immensely powerful.

Q Are there pros and cons to a remote studio?

AB: The downside of a Teams meeting is that I can't read body language as easily. But on the positive side, it's a bit like *the Masked Singer* in that you're not seeing the person as much as you're seeing the work and you're hearing the voice. You can focus on the work. We have a round robin of 8-10 people showing work, each presenting for a minute or two. You find strength in their ideas that isn't always there in person. >

Q How did you guys standardize the presentation of these ideas?

LEE WARREN: When we first kicked off Fort Lauderdale I thought I've got 10 designers, this is going to be chaos. I need to put some things in place where they can just color within the lines. We decided early on how to present the project, 11 by 17 on a digital screen, plus some interesting ways we would present the floorplans and the hardline work.

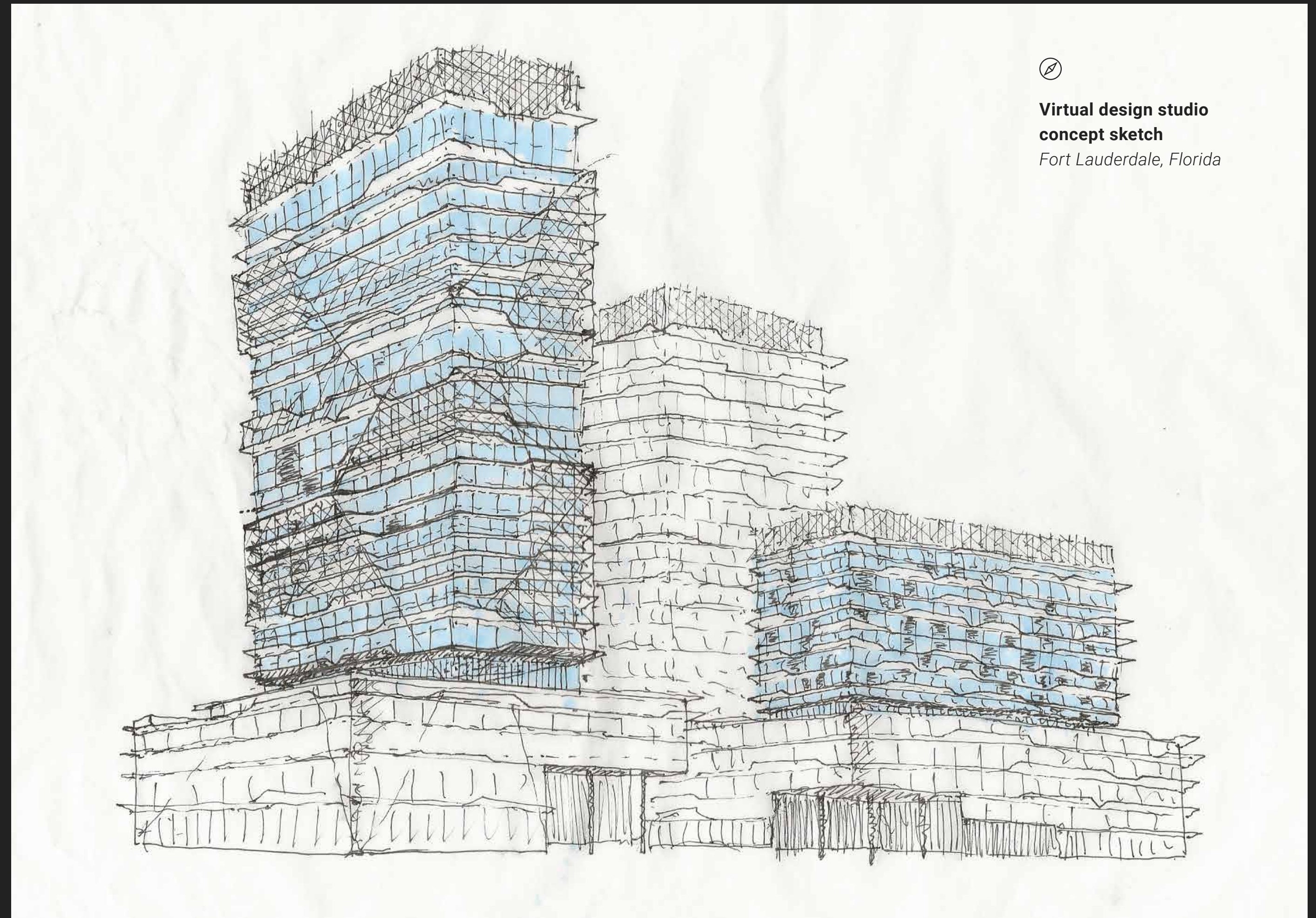
We told our designers they could draw freehand and scan or photograph it. Do whatever you want, but we need something we can show in the first round of ideas. We were fortunate that everyone was comfortable producing most of the content in a digital model.

Q What kind of process did you put in place to make sure that this would happen?

AB: Lee treats the design process as a deliverable and working remotely tapped right into that.

LW: Right away, you put yourself at the last day and say, alright, what am I delivering? How are we going to get there? What are the absolute necessities along the way?

AB: Process engineering from a design mind was critical. We needed someone who could see how to go from that blank piece of paper to presenting a design in a week. Lee was fantastic at creating a process and setting up a schedule for daily deliverables to keep us on track. During this chaotic flurry of activity, we needed someone to think about design who understands the detours you need to take to arrive at a design. He made us focus on the message and organize the parts that support that message. There were good sketches that we left on the on the cutting room floor because they didn't support the message. >



**Virtual design studio
concept sketch**
Fort Lauderdale, Florida

Q How did this process affect the early career designers?

AB: It was amazing to see them contribute. They were emboldened by this way of working, and realized that when they put more forward, it was welcomed. That sort of nurturing environment is good for developing young designers. It gives them the confidence to move quickly with a design, to put something out there, and to develop an idea as a team.

It also created an alliance and communication between the older generation of designers who have the experience and the younger generation who are driving the applications, and that allows ideas to flow more quickly.

Q If we go back to the office tomorrow, what do you take from this that makes us better?

AB: Certainly, the inter-studio design charrettes and collaboration will continue no matter where people

are. We've done this several times, now. As a company, we're built to work this way, to leverage the deeply talented individuals we have around the globe. We're building networks that are strong because we see each other collaborating, thinking about ideas, goofing off, and celebrating our design successes.

Those connections aren't going to go away, and so as project opportunities come in, we may choose to put together a design effort alongside our proposal and fee. Let's put up the bat signal and see who responds to come up with some ideas. That's easy to continue. The flexibility and openness of communication means team members can engage, even in short-burn, high-intensity efforts, wherever they are.

What the technology has done is removed barriers to engagement. That will only further promote that creative diversity and energy that we're after. That will stay regardless of whether we're all in the office together or not, because we've tasted it now. **D**



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MORE MULTI-FAMILY RESIDENTIAL

John Dugan is the editor of the Stantec Design Quarterly.

Working in the Miami studio **Andrew Burnett** leads hospitality and residential project teams, approaching design with the belief that design can be profitable, buildable, and beautiful.

Based in Miami, FL, **Lee Warren** excels at shepherding boundary pushing projects at the forefront of design technology from inception to ribbon cutting.



Virtual design studio concept rendering for tower project

Fort Lauderdale, Florida

DESIGN QUAR- TERLY



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