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Tall Architects

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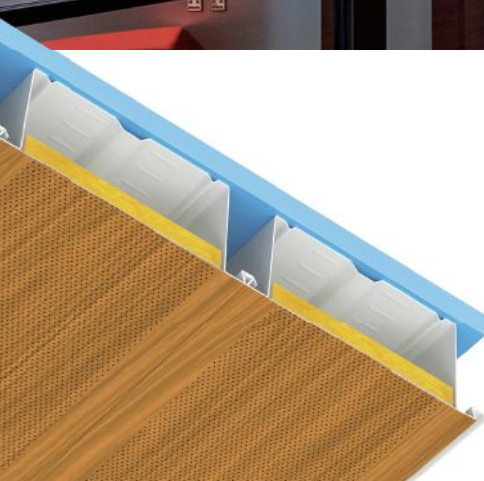




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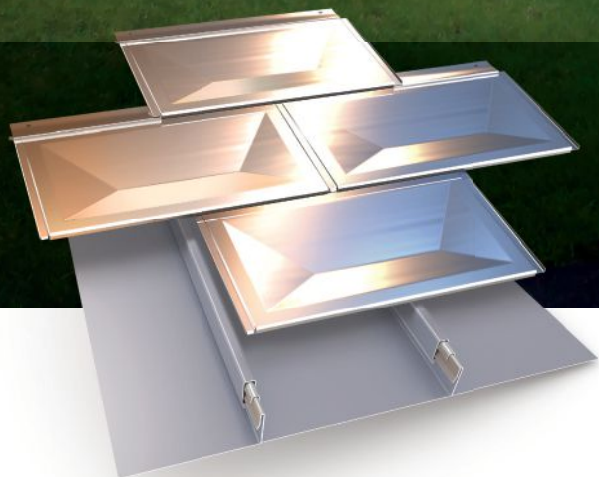
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Volume 111, number 01. January/February 2022.

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# Luxury wellness design is changing. What's next?



## THE IDEA THAT A HOME'S DESIGN CAN PROFOUNDLY IMPACT ITS RESIDENTS' HEALTH AND WELL-BEING IS NOTHING NEW:

Designing for wellness has drawn increasing attention during the past decade. But that interest has understandably skyrocketed during the global COVID-19 pandemic, especially among high-end clients, who want their homes to protect and nurture their families' physical and mental health.

How will luxury residential design morph to create even healthier environments as a result of the pandemic? What existing trends will evolve to contribute to healthy homes?

Watch the on-demand webinar "Redefining the High-End Healthy Home," produced by Hanley Wood University and sponsored by Gaggenau. In this roundtable, recorded during a live virtual event in May 2021, facilitator Jennifer Castenson leads a discussion of the emerging and evolving trends in healthy home design. She's joined by a panel of residential architects.



Kevin Alter  
Partner, Alterstudio



Danielle Tillman,  
Managing Principal, bKL



Noah Walker  
Principal, Walker Workshop



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Partner, EYRC

This webinar is approved for AIA and IDCEC continuing education credit. In addition, course registrants will gain access to a white paper on the same topic.

### ON-DEMAND WEBINAR:

#### REDEFINING THE HIGH-END HEALTHY HOME

How luxury single- and multi-family residential design is responding to a post-pandemic need to maintain and improve the health of inhabitants.

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# Next Progressives: Tall Architects

EDITED BY PAUL MAKOVSKY

**Location:** Ocean Springs, Miss.  
**Year founded:** 2014



**Firm leadership:**

Mark Talley, AIA, and  
Madison Talley, AIA

**Firm size:**

Five

**Education:**

B.Arch., Mississippi State University  
(Mark and Madison)

**How founders met:**

We met at Mississippi State University's School of Architecture the first day of first-year studio. When we were asked by Mississippi State last spring to teach in the first-year studio 15 years after our first year, it was hard to not get sentimental about the fantastic ride we have had and the bright futures of the students, some of whom will be in our shoes someday.

**Your firm's mission:**

We focus on thoughtful architecture, with the aim of always doing something a bit different, a bit cool, and a lot of fun.



**First commission:**

We designed our first building together—a large-framed steel building we call “the barn”—that was a project for our family before officially founding Tall. It's where we got married and lived for eight months when we first started Tall (six months after we got married). We later parked our 1972 Airstream outside of the building, which we also lived in for three years.

**Defining project and why:**

In 2018, we completed our own house, dubbed the “Tall House,” which was an exercise in economy and space. We decided to build only what we could afford at the time. We had previously renovated our Airstream, but tackling a building, especially one where we had carte blanche, was a goal we didn't imagine we would check off of our list for another 10 to 20 years.

**Another important project and why:**

We were approached in 2017 to design a new sign for the museum dedicated

Tall Architects is designing the new, nearly \$1 million City Hall building in Purvis, Miss.

to the work of artist Walter Anderson [The Walter Anderson Museum of Art], an artist now synonymous with the Mississippi Gulf Coast. This small project has led to several other ventures. In 2019, we began renovating and designing an addition to a cottage building the museum uses as an educational facility, and we are currently designing a new building on the same property to complement the addition.

**Biggest design challenge the firm has overcome:**

We have often felt at a disadvantage because we operate in a small southern town with small budgets, but those parameters have forced us to remain scrappy and focused on creating great stuff with minimal resources. Our location is one of our strengths.



## Next Progressives: Tall Architects



**1.** Tall House, a movable house in Vancleave, Miss., comprises two buildings separated by an outdoor living area. It functions as a microlaboratory where Tall Architects can test new and affordable materials, massing, space planning, and building techniques. **2.** The Walter Anderson Museum of Art (WAMA) in Ocean Springs, Miss., asked the architects to design a renovation and restoration of an 1890s Queen Anne cottage—the Courtney Blossman Art Cottage—the museum uses for educational classes. The project consisted of an interior re-imagining, including relocating the stair to the exterior, adding a rear porch, reconfiguring the upstairs for guest lodging, and providing accessibility throughout. **3.** The colorful rear porch of the WAMA—Courtney Blossman Art Cottage overlooks the landscape and provides space for outdoor classes, lectures, and concerts. **4.** Fowl River Cabin, a residence currently under construction in Theodore, Ala., will be wrapped in black, corrugated metal. The structure consists of two slender bars, each angled to capture views. The living area will spill from the house, to the screened porch, and out onto the land.



ARCHITECT INTEL



# SUCCESSFUL WASHROOM DESIGN IN THE AGE OF COVID-19

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**The washroom is often taken for granted** and relegated as a menial design task when it arguably represents one of the most difficult spaces to design. With few exceptions, the washroom has emerged as a focal point in the journey back to normalcy. Leaders in industries such as business, medicine, education, and travel are anxious to put their organizations back to work and bring customers back into their venues with

confidence. If architects and facility owners get the washroom wrong, workforce and customer distrust will spread like the COVID-19 virus itself, sowing seeds of doubt about returning safely to these enterprises.

Greg Poland, professor of medicine and infectious diseases at the Mayo Clinic in Rochester, Minn., doesn't mince words when describing the challenges ahead. Consider washroom water faucet and door handles, for example. "We swabbed them and put petri dishes in the incubator," he says. "The handles [were] grossly infected with bacteria and viruses."

Today's best practices to prevent the spread of infection may have come from ad hoc design patches developed to solve immediate problems in hospitals, emergency rooms, and other frontline washrooms since the pandemic began. So, what's the best way to elevate these design patches into more long-term, thoughtful, and design-driven solutions? Cyrus Boatwalla, Avi Bar, and Paul Kechejian have given this question a lot of thought. These professionals hold high-level positions at the New York headquarters of the ASI Group, a manufacturer and global supplier of washroom accessories, sanitizer dispensers, toilet partitions, lockers, and visual display products.

The trio's work has allowed them to engage with architects and management teams at top hospitals around the globe. Their



understanding of a hospital's needs come from collaborations with the medical industry throughout the pandemic, which has given them unique insight. They share a few thoughts about lessons learned:

- **Collaborate.** "Our understanding of, and the demands placed on us by COVID-19 are constantly shifting," Boatwalla says, "and we advise designers to seek out suppliers that have

a nimble mindset and manufacturing agility to respond quickly to nearly any design requirement." The ASI Group, for example, supplied and installed metal partitions for an emergency COVID-19 field hospital in Old Westbury, a village on the north shore of Long Island, N.Y., in 72 hours.

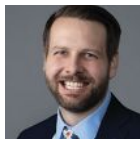
- **Wide Design Freedom.** "Identify a supplier that presents you with a large design palette," Kechejian SAYS. "Don't limit yourself to a narrow range of material choices just because that's all the supplier offers. For example, look for a source that represents metal, plastic, and phenolic partitions across a wide array of sizes and colors."
- **Think Open Source.** Some soap and sanitizer companies offer proprietary products that may sound good upfront, but lock the owner into a costly long-term contract. "Don't specify soap or sanitizer products that tie up your owner financially and leave them at the mercy of an individual company's supply chain," Bar advises. "Non-proprietary dispensers accept any qualified product, which can increase availability and reduce costs."
- **1% Risking 100%?** Don't underestimate the washroom. It may represent less than 1% of the building cost, but it puts 100% of the occupants at ease—or at odds—with their employer's return-to-work decision.

Learn more about successful washroom design at [americanspecialties.com](https://americanspecialties.com).



# Opinion: Being Yourself Is Not Always Easy

TEXT BY JON GOULD, AIA



The first time a queer person comes out of the proverbial closet is not the last. Coming out is a decision that queer people face regularly, including in the workplace. Being queer is a minority status that can be hidden, which is both a blessing and a curse.

While searching for a career path, I saw a lot of queer people in architecture. I understood this to mean that they had support at some level, prompting my interest and passion for the industry. I want to share the advice I have gathered over time as well as my experience as one member of the LGBTQ+ design community. My story and perspective do not reflect those of others: I am a white cisgender man—an identity that comes with privileges not everyone has.

Every morning when I step into the office, I must decide whether to come out. I ask myself questions such as “Do I need to act straight in this situation to make people comfortable? Does my outfit make me look too gay? Am I willing to compromise my values to shape who I am for others?” Each experience is packed with emotions: fear, joy, love, and uncertainty.

My sexuality doesn't define or affect my ability to work, but it does affect the level to which I can connect with others. Hiding who I am can

prohibit the formation of those crucial co-worker relationships. I worry most about people gossiping or questioning my sexuality on their own accord, so I prefer to control the narrative. Aside from casually adding, “Oh, by the way, I'm gay” into conversation, I look for ways to come out passively by actively living my life. I display a rainbow flag on my desk; I share stories and pictures with my co-workers about what my husband and I did over the weekend; and I bring my husband to work functions and introduce him to my colleagues.

Architects work in a service-based industry. We must earn our clients' trust for our projects to be successful and to, ideally, develop lasting relationships. Some people choose not to intermix personal life and work life, but being open across both aspects gives me the freedom to be me.

When I meet a client, I don't explicitly plan how to share my sexuality; instead, I let the topic naturally come up in conversation. I try to introduce this part of myself early in our interactions because the longer I wait, the harder it becomes. My hope is that the client better understands my values as both a designer and a person, leading to a stronger connection on both fronts.

As someone who travels nationwide for work, I have found myself at times on sites where I have little in common with the contractors and team aside from the progress of the project. My objective then becomes about not only

sharing my sexuality but also building relationships in general. Finding similar interests helps people become more comfortable. Bantering about things outside of work will almost always help when the discussion turns to submittals and change orders.

As a result, I play into the passions of my colleagues. For example, I set up Google alerts for local football teams so I can contribute to conversations that follow the past weekend's games.

Coming out is not a one-time, one-size-fits-all moment, but a continuous journey. Just as individuals must be secure about themselves to come out, our workplaces must create safe and inclusive environments. While the design profession still has a ways to go, I am encouraged by its progress on LGBTQ+ topics. Our conversations about diversity and inclusion are giving underrepresented groups a voice that we did not have before.

Being gay never leaves my mind. Worrying about how I am perceived as a gay man makes me second-guess many of my actions. Fortunately, my workplace is committed to diversity and inclusion, allowing me to be myself, to come out, and to build the types of relationships I need in order to thrive as an architect.

*Jon Gould, AIA, is an Atlanta-based associate and project manager at Cooper Carry.*





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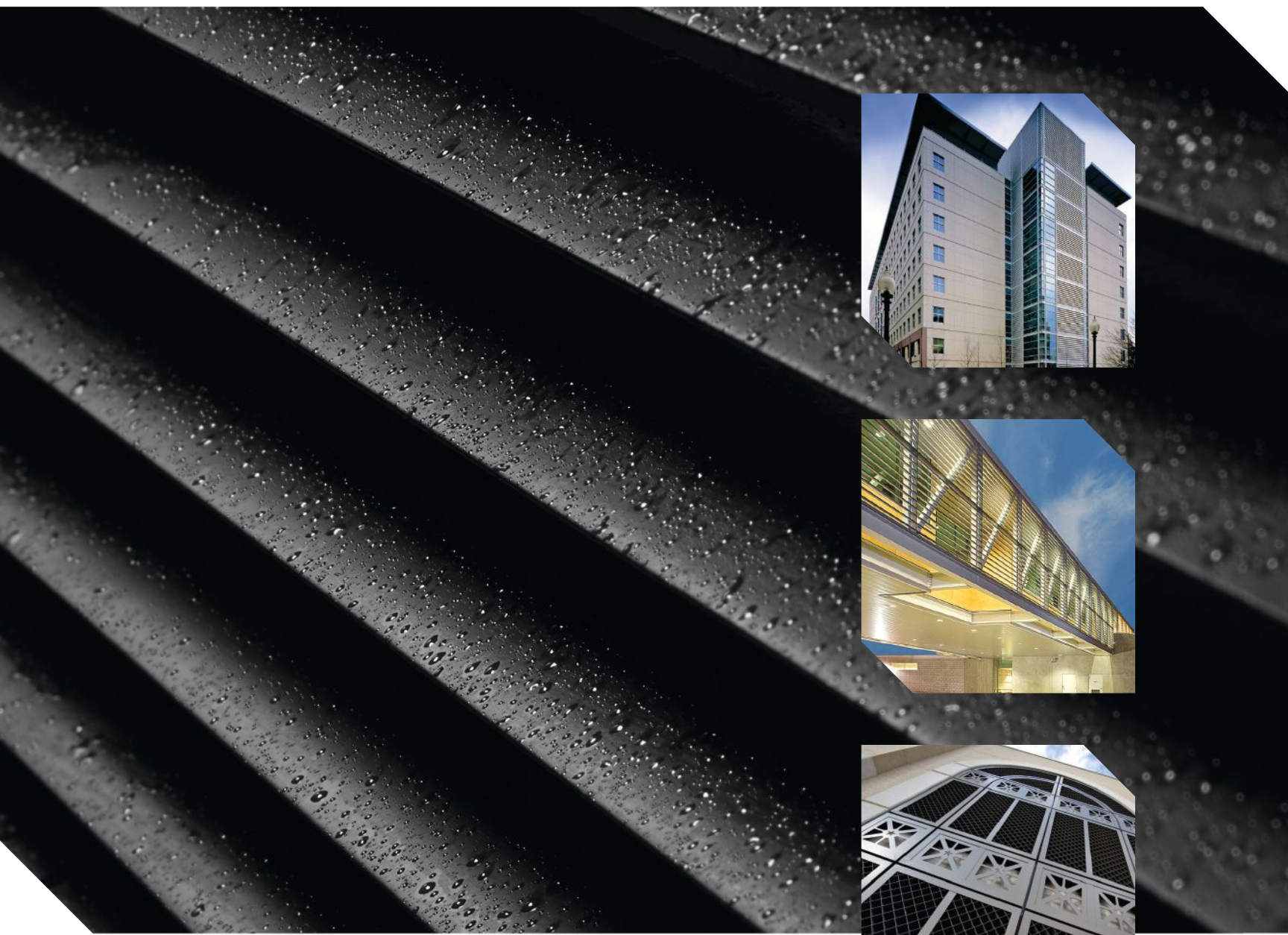
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# AIA Architect



CREDIT: OLIVIA OBINEME

## Beyond the Basics

Passion is infectious when it comes to educating future architects.

*In 2021, Tarik El-Naggar, AIA, led students at Valparaiso High School in Valparaiso, Ind., his alma mater, to victory at the Indiana High School Architectural Design Competition—they won every award. El-Naggar, who also owns his own firm, has been teaching at the school since 2012, employing a curriculum that he had formerly used teaching college students. We chatted with him about molding the next generation of architecture students.*

As told to Katherine Flynn

I was an architect for a very long time and did a lot of town planning. When I started at Valparaiso High School in Indiana, I used a lot of what I had been doing while teaching at the university level. I came up with a curriculum designed to prepare high school students for their first and second years of college in both architecture and engineering. While I was doing that, Project Lead The Way [a nonprofit that provides a K-12 STEM curriculum] started becoming more prominent, and I looked at its framework and migrated it in. What I teach now is a combination of Project Lead The

Way's civil engineering and architecture course and its general engineering classes along with my experience from 40 years as an architect and town planner. That's how it came to be.

The first thing I did when I started was establish this principle: "I'm going to treat my students like college students." I start off by teaching design theory: "What's an axis and how does it reach across space? And how do walls layer? They're not just static." I start teaching them these and other concepts to help them see architecture as a series of elements, similar to [Christopher] Alexander's *A Pattern Language*. We create a vocabulary, and once they have those tools, they really start talking about architecture. I get them to that level, and then we jump into Revit and from that point on, I can't hold them back; they just start running. From there, we do some basic design exercises, like a narrow New Orleans-style shotgun house. Lots of parameters, but lots of freedom to do what they want. Then we start the competition. Once they start, I can't get them out of the studio. I'm there over spring break,

I'm there on weekends because they don't want to leave. That's how it happens. They become passionate about their designs and the process of problem solving, and I hope my passion is infectious.

To date, all of my students, every single one who has applied to architecture school, have been accepted. Not one has been turned down. Additionally, I'm not only teaching the basic tools of architecture, I also include modules on biophilic design, ethics in architecture, and the environmental side of sustainability. I think that architects have to be sensitive to the context beyond their site and understand the socioeconomic impact of a building a block away, two blocks away, and within a five-minute walk. As an example, I love the micro-projects that the Savannah College of Art and Design is doing, like the one a few years ago where they put small apartments in abandoned parking garages. That's the kind of stuff I would love our high school students to play with in the future—they would come up with ideas that most of us wouldn't even think of because they're still fresh. **AIA**





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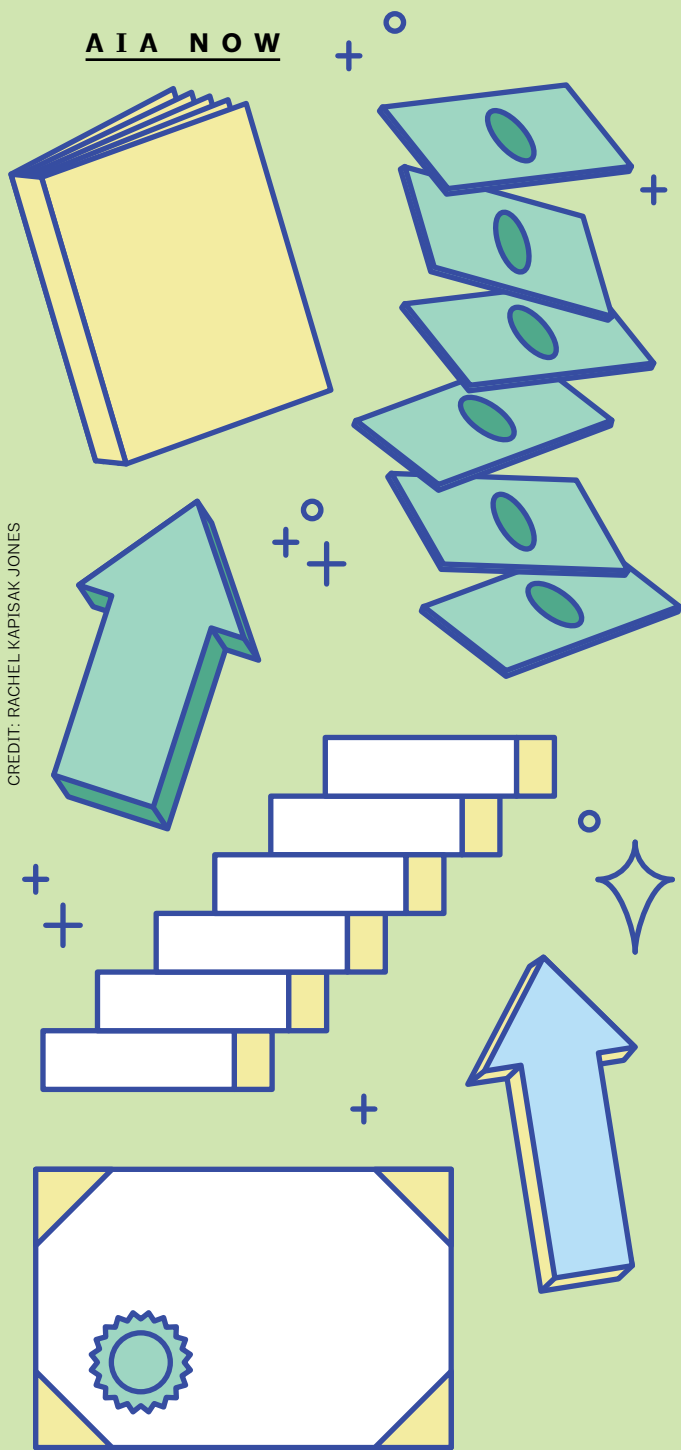
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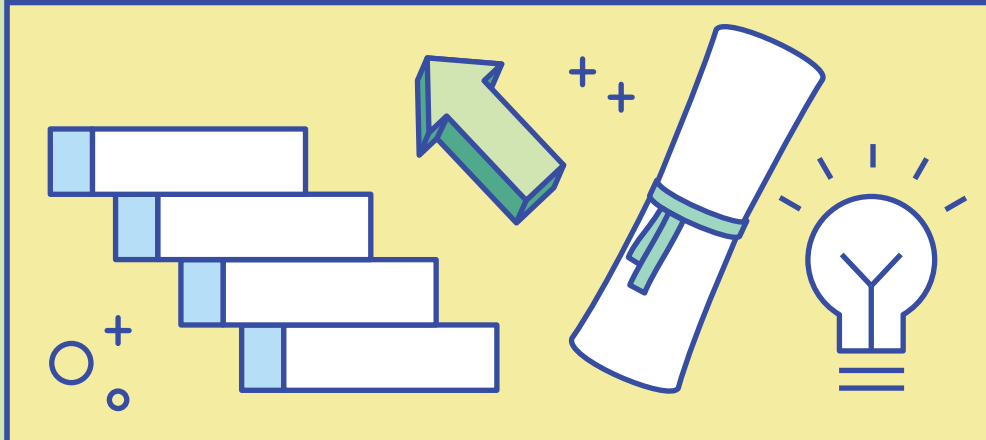
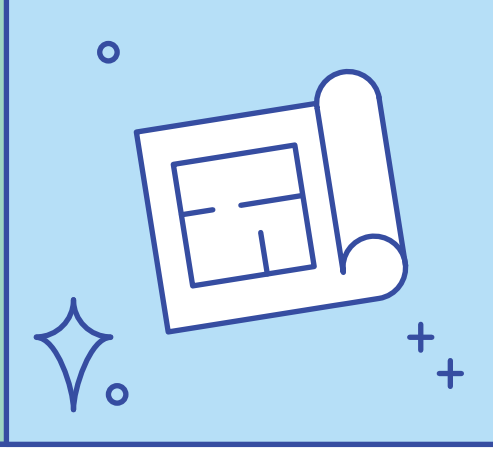
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## At a Premium

By Michele Russo

A fifth of very small architecture firms (those with three or fewer architects on staff) provide a premium of 10% or more to starting salaries for employees possessing a professional degree in architecture versus those with a four-year nonprofessional degree in architectural studies. While the overall share of these small firms that offer premiums is slightly smaller than that of firms of larger sizes, 46% versus 58%, respectively, the premium is significantly higher. Only 8% of firms with 20 to 49 employees,

4% of firms with 50 to 99 employees, and 1% of firms with 100 or more employees pay a 10% premium in salary for those with professional degrees. A notable share of these very small firms—30%—do not even consider hiring employees who lack a professional degree in architecture, significantly higher than the fifth (21%) of larger firms that report the same. **AIA**

Sources: 2021 AIA Compensation Report; 2021 AIA Small Firm Compensation Report







# A Rebound for Design and Construction

A new set of near- and long-term challenges, however, could complicate an optimistic forecast for the industry.

By Kermit Baker, HON. AIA

From a business perspective, most architecture firms had a better-than-expected 2021, with the momentum continuing into 2022. However, there will be several challenges over the next three to five years that will dramatically reshape the construction industry and design professions, including an extremely tight labor market for architects and contractors; navigating remote work and rebuilding firm culture; and responding to emerging priorities of both staff and clients.

After entering last year in the midst of a steep downturn, almost six in 10 firms nationally ended 2021 with revenue gains of at least 5%. On average, revenue increased almost 6%. This year, even more growth in revenue is expected,

almost 7% on average, with very few firms anticipating a revenue decline.

Even in the face of this generally positive outlook for the architecture profession, there are likely to be significant challenges. Supply disruptions, although showing signs of moderating, will continue to plague the construction sector. These disruptions, coupled with a strong economy, will continue to stoke inflation and put upward pressure on interest rates. Finally, labor shortages that have dogged construction contractors and architecture firms over the past year look to become more serious this year.

What started as production challenges as the pandemic hit has morphed into a surge in consumer demand that has

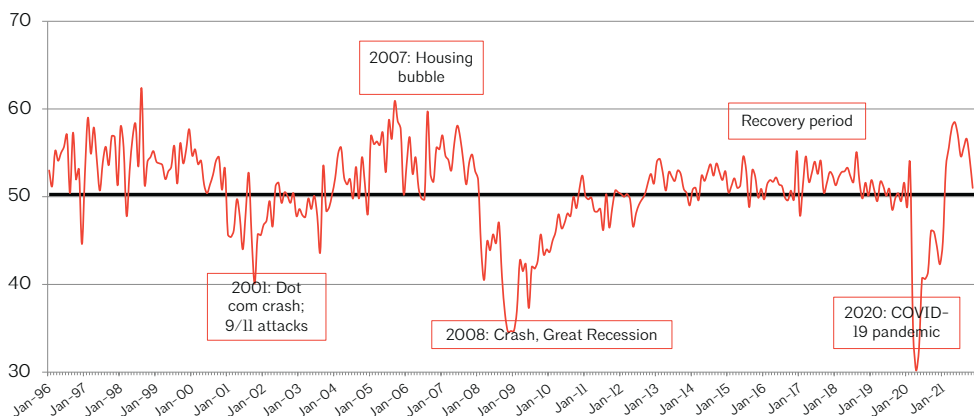
outstripped the production capacity of many manufacturers. Construction has been particularly hard hit by supply chain issues. Construction costs overall rose about 20% last year, with those for some products (e.g., steel and oil-based products) rising more than 50%. While overall price increases for construction materials are beginning to moderate, most products will see elevated costs over the next several quarters.

Supply chain disruptions have been a major source for rising inflation throughout our economy. Consumer prices were increasing almost 7% annually at the end of last year, while producer (wholesale) prices were increasing at an even faster pace. This is as high as inflation has been in our economy in almost 40 years and comes on the heels of an extended period of lower-than-expected inflation with occasional threats of deflation. Given the strength of the economy, this high rate of inflation will force up interest rates. Short-term interest rates are expected to increase a full percentage point by the end of the year, with long-term rates rising by a similar amount.

Adding to inflationary pressures is the surprisingly tight labor market. After losing over 22 million payroll positions almost immediately when the pandemic hit, the economy has added almost 19 million since April 2020. Building construction contractors have seen a comparable share of recovery in payroll employment. Notably, architecture firms are one of the few sectors of the economy where employment had exceeded its pre-pandemic high by the fourth quarter of last year.

## Architecture Billings Index (ABI) scores were near historically high levels in 2021

Diffusion index: 50 = no change from previous month, seasonally adjusted

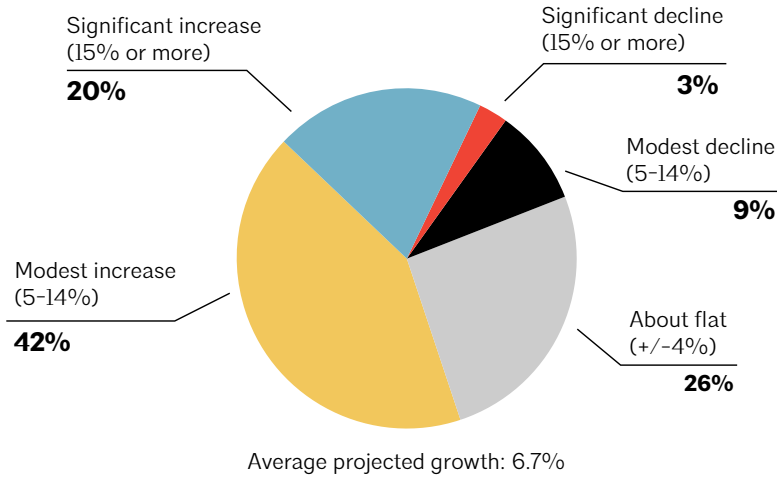


source: AIA Architecture Billings Index



## Most architecture firms are expecting healthy business conditions to continue this year

Projected change in revenue in 2022 compared to 2021, percent of firms



source: AIA Work-on-the-Boards Survey, November 2021

A recent survey by the small business-focused National Federation of Independent Business found that 57% of business owners reported that they were finding few or no qualified applicants for their open positions, a record share in the history of this survey. Most workers throughout the economy feel that jobs are plentiful and therefore are increasingly comfortable leaving their current job in favor of searching for a better one. Architects, like many other occupations,

have been rethinking their career priorities during the pandemic. Often that means seeking higher compensation, as this is routinely a key issue for many in the profession.

However, there are several other factors that as many or even more firm leaders rated as very important for staff satisfaction in the future. These included: firm benefits (e.g., health coverage, work schedule, time off, ability to work remotely); advancement potential; types

of projects worked on; firm culture; and workplace comfort. More than one in five of these firm leaders ranked firm culture and workplace comfort as the most important factor for staff satisfaction in the future, even ahead of compensation.

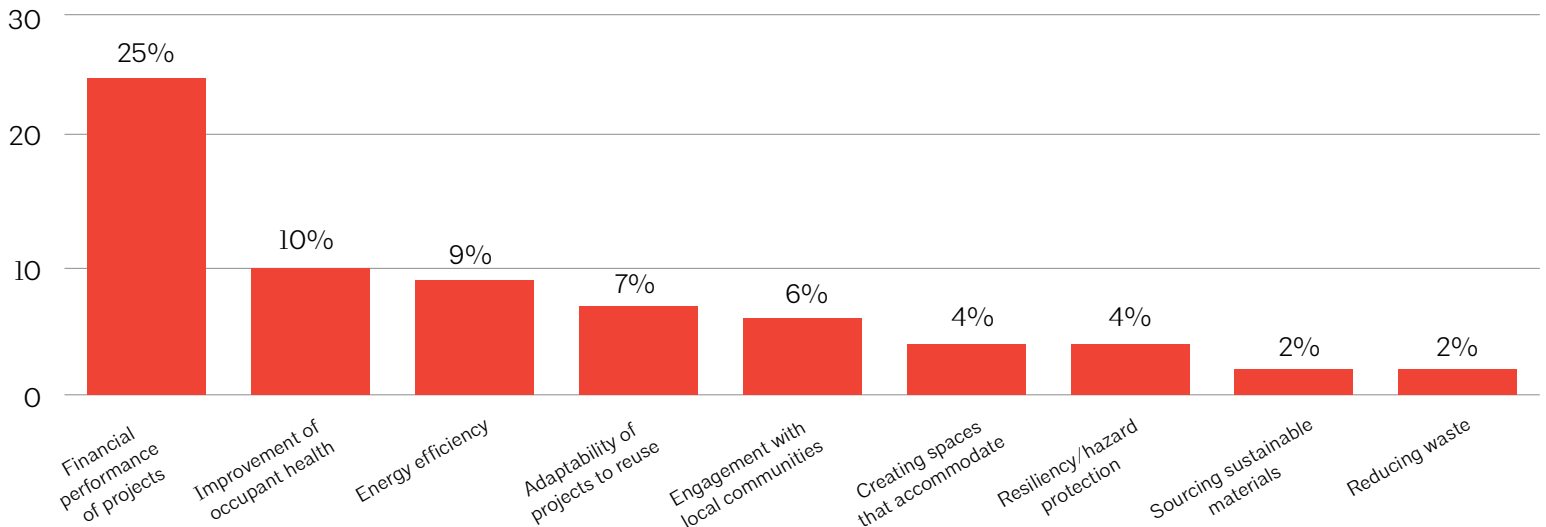
However, it is not only architecture staff, or workers in general, who are rethinking their priorities in the face of changes brought on by the pandemic. Building owners and developers are beginning to articulate a more inclusive set of goals for projects that they are undertaking given the changing public health, environmental, economic, social, and demographic concerns that they see across the national horizon.

The financial performance of a building, measured as the return on investment or improved-asset value, has traditionally been a key metric for clients, and therefore a design priority for architects. In a recent survey, 44% of architects reported that the financial performance of projects is likely to be a very important design priority of clients in coming years. A quarter of respondents rated it the most important consideration.

However, social upheavals and evolving concerns over the past few years have altered and expanded the corporate perspective of design priorities. Improved occupant health and well-being is deemed as likely to be a very important design priority for clients by well over four in 10 architects, with almost 10% ranking it as the most important. Energy performance

## Design priorities of clients expected to move beyond financial performance to health, energy efficiency, and adaptability

Likely most important consideration in design priorities of their clients over the next three-five years, percent of firms



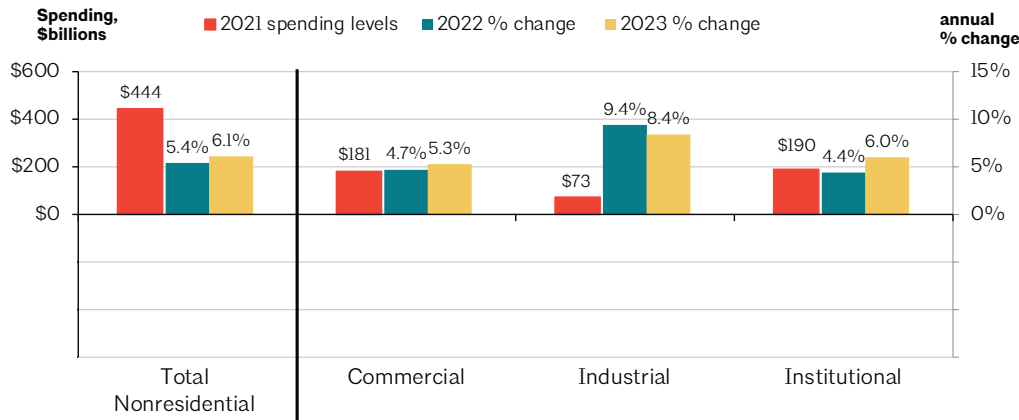
source: AIA Work-on-the-Boards Survey, November 2021

Note: totals don't add to 100%



## Construction spending expected to recover in 2022 and 2023 across all major building sectors

Billions \$/% change – construction spending on nonresidential buildings



source: AIA Consensus Construction Forecast Panel, December 2021

almost matched public health as a design priority with over 40% feeling that it likely will be a very important consideration and almost 9% feeling that it will be the most important design priority of clients.

The pandemic has shown that building uses need to change as space demands fluctuate. For example, with more remote work, some markets will need less office space, providing the opportunity to convert that excess space to functions with growing needs, like distribution facilities, data centers, or affordable housing. Therefore, adaptability is likely to be a growing design priority. Likewise, ensuring that buildings engage with the local community, that they are resilient and accessible, and that they source sustainable materials and reduce waste in the construction process are all considerations that are thought to be emerging design priorities in the coming years.

While there are always complicating factors in predicting where the design and construction industry is headed, the list is unusually long and complex

this year. Supply chain issues have disrupted schedules and rising inflation has complicated project budgeting. Furthermore, many architecture firms and construction contractors are facing serious labor challenges, raising their cost of doing business as well as complicating the scheduling on projects. For architects, shifting client design priorities offer an opportunity for architecture firms, but also introduce an element of uncertainty into developing design solutions.

Factoring in all these challenges, the outlook for construction spending next year is generally quite positive. On the heels of a decline in spending for buildings in 2020 and 2021, the AIA Consensus Construction Forecast panelists are predicting a recovery of over 5% this year and an additional 6% in 2023.

As is the case with most nonresidential building recoveries, this one is driven in large part by an upturn in the residential market. Low mortgage rates and the pandemic-induced desire to move from cities to suburban and exurban locations,

particularly in affordable Sun Belt markets, has stoked the housing market. Housing starts nationally will approach 1.6 million this year, making it the best year for housing in a decade and a half. Home construction typically generates demand for stores, offices, schools, health care facilities, and other commercial and institutional structures. In fact, work at architecture firms confirms that this process is well underway. The AIA's Architecture Billings Index turned positive early in 2021, and given its traditional nine- to 12-month lead over construction spending, it points to a healthy rebound in construction this year.

The commercial construction market was expected to be the hardest hit by the pandemic. Remote work meant less need for offices; e-commerce reduced the demand for traditional brick and mortar retail; and travel cutbacks dramatically cut into the lodging market. While the commercial market has been generally weak since the pandemic hit, some sectors have done surprisingly well. Retail space, in particular, was one of the few major sectors to see an increase in construction activity last year, reflecting consumer spending on goods given the limited desire to purchase services. Some of the strength in the commercial sector came from repurposing existing space to uses more in demand. Commercial construction activity is projected to see growth of almost 5% this year, and close to 5.5% in 2023.

The industrial market will pace the building construction upturn this year and next, with projected gains of close to 9% each year. This sector has been one of the few in construction to benefit from the pandemic. The strong growth in e-commerce during the pandemic meant increased need for distribution facilities. Additionally, supply chain problems have provided the incentive for companies to increase their domestic production in an effort to avoid the long delays often seen with imported goods.

The institutional sector tends to be the last to recover from a downturn, and that looks to be the case with this cycle. Overall spending for these facilities is projected to increase 4% this year, and 6% next year. The two largest institutional categories moved in opposite directions last year. Healthcare construction eked out a small gain and is projected to see growth of 6% this year and next. Education, with reduced need for facilities given the widespread reliance on remote learning, saw a decline last year, and is projected to see a rebound of 3.5% this year before benefitting from accelerating growth in 2023. **AIA**

Building owners and developers are beginning to articulate a more inclusive set of goals for projects that they are undertaking given the changing public health, environmental, economic, social, and demographic concerns that they see across the national horizon.





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# AIA's New CEO Advocates Fearless Leadership

Lakisha Woods is ready to tackle the profession's biggest challenges

By Katherine Flynn

*Lakisha Woods assumed the role of executive vice president and chief executive officer of The American Institute of Architects at the end of January. She formerly served as president and chief executive officer of the National Institute of Building Sciences and is the author of Never Get Their Coffee: Empowering Fearless Leadership. We talked with Woods about where the profession is headed and how she hopes to lead AIA in the next decade and beyond.*

## On what most excites her about this role

It was always my dream to one day work for AIA, and now it's my honor to lead it alongside the board and the strategic council. A love of architecture has always been a part of who I am. It's the area that I appreciate the most about the built environment, and why I stayed in this space. I'm often the only person that looks

like me in the room, or at least I was until recently. I love the people in this industry, and I love that I can look up and see the product of the people I represent. That's what excites me every day about being in this space.

## On the biggest challenges currently facing the profession

I hear people use all the different words—justice, belonging, access. To me, what really matters is that we take action and that we truly create an inclusive environment. Women represent 47% of the general working population, but women in architecture still do not represent the percentage that they need to within this industry. Not until 2014 was a woman [Julia Morgan] even presented with a top award. There's so much work for us to do to provide an environment where women

and minorities feel that they have a place. The data shows that when an industry or company has a diverse set of people in leadership roles, and within the organization as a whole, it is more profitable and more innovative. It is paramount that we address this issue head on.

We all know that climate action and sustainability are areas where we must take the lead. I have often heard from people in the industry space in general, "How are we going to convince owners to pay for that component, even if it's the right thing to do?" I think the part of the story we need to tell is that there's an intersection between equity and sustainability. It's our job to make sure that we are telling our story in a way that connects.

## On where the profession will be in 10 years

The new strategic plan is the reason why I'm here. The bold goals designed and approved by AIA leadership can transform the industry. In 10 years, we must address climate action. It is our responsibility to design solutions to create a better tomorrow. In addition, racial and gender equity is the key to innovation and the growth and development of our workforce.

We must encourage people to have the important conversations about embracing the technology that can help us be more innovative. We, as an association, must do our part to convene key stakeholders and show them why there's a real benefit to diversifying our leadership. According to recent studies, the percentage of men and women graduating from architecture school is near a 50/50 split. We must take the next steps to keep that gender balance in licensure, leadership, and awards. We know that it's going to take some time.

## On how AIA can best support pay equity, gender equity, and racial equity among architects

I think what is great about what AIA has done is put pen to paper; it put an action plan in place. But a lot of it is about continually aiming to have discussions recognizing the changes that are needed in culture, as well as looking at the data and then making tangible, trackable goals so that you can see change in your industry.

I've listened to many thought leaders on this topic, as well. [President of Ariel Investments] Melody Hobson said that you can't be color blind—you have to be color brave, because it's not just about saying that you don't see the differences



in people. Embracing those differences makes our profession that much better, but we have to talk about them. We must recognize those differences, and then we also have to make sure that we're putting equitable steps in place. It doesn't just happen with a statement. If people are willing to listen and try, that is how we're going to get there.

### On how AIA can support emerging professionals and anticipate what's next

We have work to do to increase salaries, not just for the young professionals coming in but for the profession as a whole. It's important for us to develop tools and resources to support the needs of our members. I know that when I was starting my career, I learned a lot from seasoned industry experts, but I also had a lot to share with them. Sometimes experienced professionals don't recognize what they can learn from those with fresh ideas.

A phrase that's said all the time at

associations is, "We've always done it that way." And I tell my team all the time, that can't be the reason we ever do anything. So often a major innovation was not that innovative, but leaders were not listening to new voices—if Blockbuster had just paid attention to what was happening, they already had the network, and they could have owned that space and crushed Netflix before it ever started. I love learning from failures of major corporations and finding ways to adapt our own services and resources to avoid falling into the same traps.

### On how well architects are positioned to tackle sustainability and climate change

The leaders in this industry recognize that there's a need for change. They've put a plan in place. So often, especially in the built environment, the struggle is to just start the conversation. I believe architects are ahead of the game because they have not just had the conversation, but they

brought in the experts to help outline a plan to make the necessary changes.

### On how architects can best advocate for sustainable design

It is important to understand your customer. My best analogy is the expansion of Starbucks. If someone had asked me if I wanted to spend \$6 on coffee, I would have said "no." But creating a space where I could have my triple shot, grande skinny cinnamon dolce latte, add caramel—yes, \$6. Scan my app and give me my stars. It's changing the experience of something you've always done but making it so you don't mind the added expense, because you feel better about the end product.

### On her favorite buildings

If I have to just give one and it's anywhere in the world, I'm going to say Casa Batlló in Barcelona. I'm a Gaudí fan. In the U.S., I'm obsessed with Chicago architecture and specifically the Tribune Tower. **AIA**

## A I A P E R S P E C T I V E

# Transition and Opportunity

By Dan Hart, FAIA, 2022 AIA President

The new year is always a time of transition and opportunity. And that's especially true for AIA this year.

I am thrilled to welcome Lakisha Woods, CAE, to serve as AIA's next executive vice president and CEO. With her experience leading the National Institute of Building Sciences, Woods embodies an ideal combination of expertise and fresh perspective that AIA needs to succeed in tackling our priority issues.

Her leadership on the board of the U.S. Green Building Council, for example, is tremendously helpful as we envision our continued progress in our profession's sustainability efforts. We know architects can't be effective alone; we must be collaborative. Woods' extensive experience working in partnership with experts across the building and design sectors, government, and regulatory agencies will help us develop the coalitions we need across all segments of the built environment.

Woods has a proven track record of addressing our most urgent issues head-on—from sustainability and resilience to equity and diversity. I can't wait for our members

to get to know her and to work with her to achieve her vision to "secure a future for the association that is as diverse as our society, as inclusive as everyone deserves, and as sustainable as the next generation demands."

As we welcome Woods, we also recognize the profound contributions of Robert Ivy, FAIA. Ivy's vision and leadership over the last decade unquestionably positioned us as a redesigned AIA for the 21st century. In the past three years, AIA has asserted sustainability and equity as our top priorities. We're making significant headway in translating those objectives into action.

Ivy has also led efforts to modernize AIA and streamline our governance structure—all with a view toward making us a more nimble, responsive, and transparent organization. These are concrete changes that have a real impact on our ability to achieve transformation in the built environment.

More evidence of Ivy's positive, lasting impact is still to come with the AIA headquarters building renewal project, which he's been instrumental in shepherding through its crucial early stages.

The headquarters renewal is a once-in-a-generation opportunity to embody our values in our own building. For decades to come, AIA's space in Washington will stand as a tangible demonstration of the values of equity, sustainability, inclusiveness, and innovation we champion.

Productivity guru David Allen says: "There are no problems, just projects." Don't you love the optimism of that sentiment? Problems are simply as yet undefined projects. Identifying, framing, defining, and then doing projects is at the heart of what we do as architects. It's what the world needs most, and it's what we do best.

Our communities have big challenges. And our profession is uniquely equipped to help. We know how to design spaces that are more resilient, more inclusive, and healthier. The need for these spaces has never been more obvious, or more urgent. And we've never been better prepared to make a difference.

There are no problems, only projects. **AIA**



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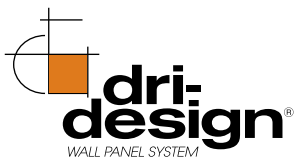


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# LIGHT & ARCHITECTURE DESIGN AWARDS

The 18th annual Light & Architecture Awards feature bold and subtle winning designs that tell a story, from New York and Houston to Jingdezhen, China. The Honor Award represents the highest achievement and the Merit Award represents distinguished achievement.

## ← Rothko Chapel

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*The design enhances the viewer's ability to experience the richness and variation of color in the Rothko paintings.*

—JOYCE HAHN

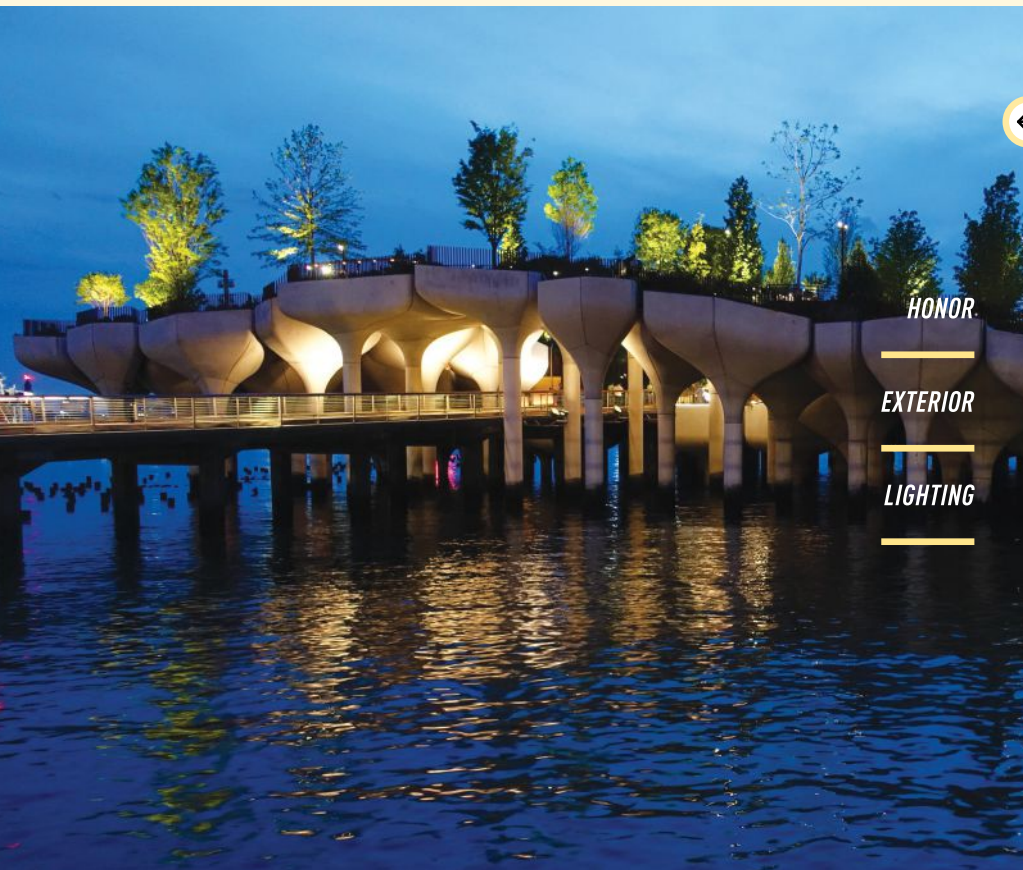
Opened in Houston in 1972, the 6,000-square-foot Rothko Chapel was conceived by artist Mark Rothko and architect Philip Johnson as a naturally lit space for displaying the artist's paintings. However, the brightness of the central skylight created too much visual contrast, and even potential damage, for the dark paintings. George Sexton Associates developed a louver system following the profile of the original skylight while gently washing the perimeter walls with natural light. Supplemental artificial lighting, controlled by photosensors, is provided as needed by digital projectors concealed at the skylight ring, directing light to the perimeter walls via a set of mirrors suspended below.

HONOR

WHOLE

BUILDING





## Little Island

NEW YORK  
FISHER MARANTZ STONE;  
HEATHERWICK STUDIO

*The lighting supported the project and created its own little world.*

—NELSON JENKINS, AIA

Little Island is a nearly 3-acre artificial island park on Pier 55 in Manhattan. Supported by 132 tulip-shaped concrete pots atop piers, the park features rolling topography interspersed with pathways, performance spaces, and breathtaking views. A restored ocean liner archway, sparkling with light, draws visitors in along a luminous bridge beneath uplit concrete pots. The island's walkways are well-lit for safety and orientation, but the fixtures are carefully shielded to maintain unobstructed views of the city and the Hudson River. Linear sources are concealed within railings, and point sources are positioned behind boulders or ground cover to establish a sense of spatial hierarchy. By artfully determining what to highlight or leave in shadow, the designers succeeded in creating a dramatic and dynamic setting for nighttime exploration.

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EXTERIOR

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INTERIOR

LIGHTING

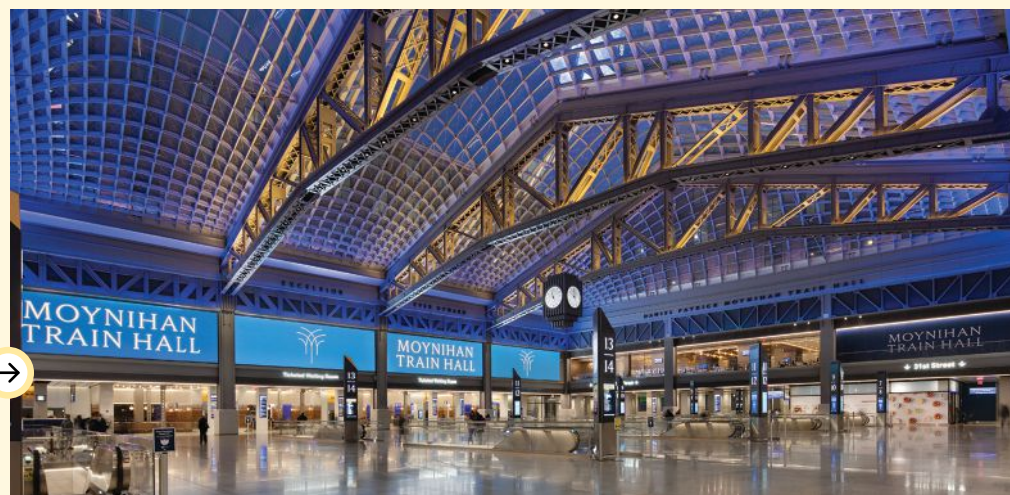
## Daniel Patrick Moynihan Train Hall



NEW YORK  
DOMINGO GONZALEZ  
ASSOCIATES; SOM

*It has a good nighttime identity and it inspires a level of awe and wonderment when people walk around in it.*

—NELSON JENKINS, AIA



SOM completed this expansion of the Pennsylvania Station complex—one of New York City's most ambitious infrastructure upgrades in decades. The re-imagined structure features mid-block connector skylights that bring in natural light, while creating contrast with adjacent spaces with low ceilings. Domingo Gonzalez Associates employed a lighting control system to automatically minimize luminance ratios, continuously

adapting to the intensity and color temperature of the natural light. Uplights and downlights illuminate the distinctive trusses, but the fixtures are concealed from view, allowing the architecture to take center stage. After the sun goes down, however, the lighting steals the show: Truss-mounted RGBW uplights and façade-mounted fixtures wash these features in neutral or bold shades, changing to reflect special events.



## 2022 JURY



**Joyce Hahn**  
Arup  
Los Angeles



**Nelson Jenkins, AIA**  
Lumen Architecture  
New York



**Likhitha Rangaswamy**  
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STUDIO ZHU-PEI

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**Metropolitan Museum**  
**of Art About Time:**  
**Fashion and Duration**  
**Exhibition**

NEW YORK  
TILLOTSON DESIGN ASSOCIATES

*The whole concept of the fashion timeline and the way the story was told with lighting was a perfect match.*

—LIKHITHA RANGASWAMY

The exhibition by stage designer Es Devlin at The Costume Institute, of the Metropolitan Museum of Art, traced 150 years of fashion along a disrupted timeline to honor the museum's sesquicentennial. Tillotson Design Associates realized the concept through a ticking clock motif in the form of custom linear LED markers accompanied by au-

## HONOR

## EXHIBITION LIGHTING

## AND INSTALLATIONS

dio of rhythmic ticking that guided visitors down a dark hallway, continuing into two galleries. The first gallery was dark, with the linear LEDs punctuating the ceiling plane and plinths, and a swinging pendulum illuminated from above by framing projectors. In the brighter second gallery, mirrored panels depicted the infinite nature of time, as the light ticks continued their rhythmic spiral. Throughout, carefully shielded point sources and surface-mounted accents highlighted the fine detailing of the sensitive garments on display, all in accordance with strict conservation requirements.



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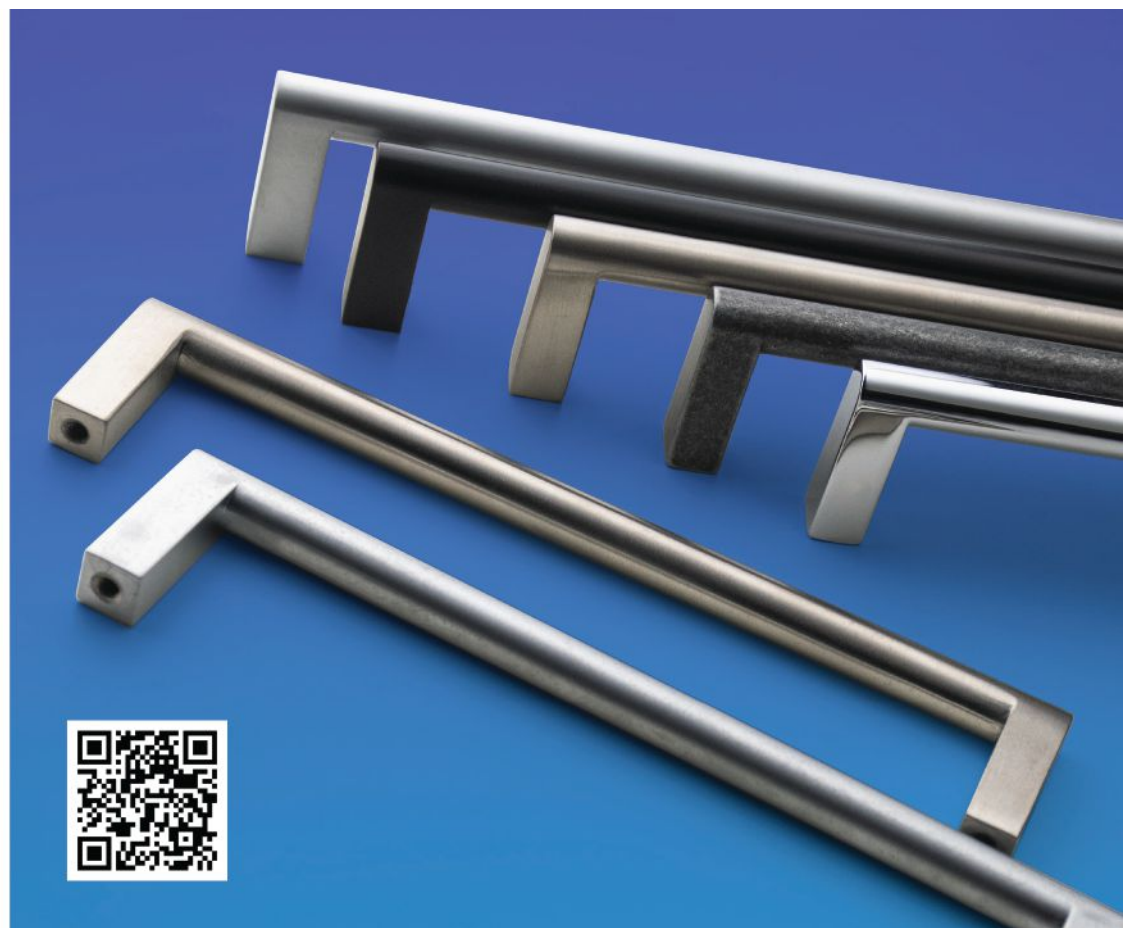
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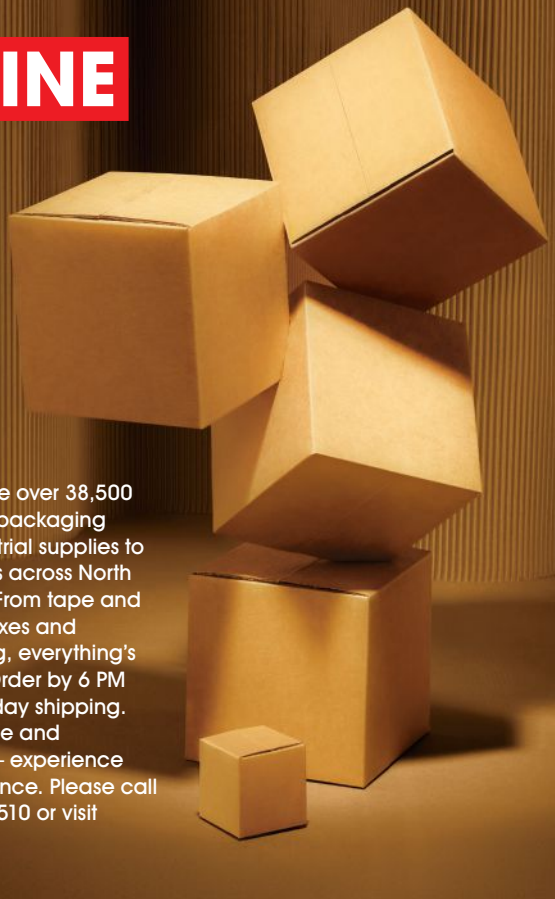
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# ARCHITECTURE

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&

# INTERIORS AWARDS

TEXT BY  
EDWARD KEEGAN, AIA, AND  
UTKARSHA LAHARIA



For ARCHITECT's inaugural Architecture & Interiors Awards, four judges considered a vast pool of 338 international submissions. This year's class of 16 winners—14 Honor Award recipients, indicating the highest level of achievement, and two Merit Award recipients, indicating distinguished achievement—sets the standard for excellence in commercial architecture and

interior design. Located around the world, these projects encompass a high-tech exhibition exploring tolerance and human rights, the adaptive reuse of a Montreal icon, to a colorful community coffeehouse. Across the varied typologies, each winning project maintains a sensitivity to mission, to community, and to sustainability that underscores the full impact—and potential—of commercial design.

## 2022 JURY

MODERATED BY

MADELEINE D'ANGELO AND PAUL MAKOVSKY



**Verda Alexander**  
co-founder, Studio O+A



**Imani Day, AIA**  
principal, RVS Studios



**Denise Rush**  
dean, School of Interior Architecture  
at Boston Architectural College



**Joey Shimoda, FAIA**  
co-founder, Shimoda Design Group

ABOVE: STÉPHANE BRÜGGER; BELOW: ERIC STAUDENMAIER



**"This is a great example of how reuse and transformation can save the past and create a new future. The new interior insertions add a refined and distinct element inside the fantastic structural forms."**  
— JOEY SHIMODA, FAIA



HONOR / ARCHITECTURE — ADAPTIVE REUSE

## MONTREAL TOWER

Provencher\_Roy  
Montreal

At 575 feet tall, the dramatically inclined tower above Montreal's 1976 Olympic Stadium is the sixth tallest structure in the city. Long considered a white elephant, the Montreal Tower, with 200,000 square feet of interior space, has remained vacant except for the observatory at its summit. But locally based Provencher\_Roy has re-imagined the tower—initially designed by French architect Roger Taillibert—to provide uniquely configured contemporary office spaces.

Using extensive 3D modeling and laser scanning

to document the tower's existing conditions, the designers replaced large swaths of the original prefabricated concrete cladding with a glass curtain wall that provides natural light throughout the new office spaces and reveals the tower's internal structure.

For most of its half-century history, the Montreal Tower has symbolized profligate public spending on the Olympics. But with its recent renovations, the principal structure has found a sustainable new life that embraces its unique form. —E.K.



HONOR / INTERIOR — HOSPITALITY

## LIBERATION COFFEE HOUSE

ORA  
Los Angeles

Positioned on a prominent urban corner in Los Angeles, Liberation Coffee House is a café, a shop, and a gallery within the new Los Angeles LGBT Community Center. The local studio ORA designed the 1,600-square-foot space, detailing a vibrant community living room and a welcoming venue that showcases the creative business endeavors of community members through pop-ups, lectures, and networking events.

The initial design board of bold colors and movement was inspired by American pop artist Keith Haring, and the interior palette of red,

orange, yellow, and green—signifying life, healing, sunlight, and nature—was inspired by the pride flag. Each shade hints at the vibrant spirit of the LGBTQ+ community while celebrating its history. ORA embodied the center's fluid nature, one that is welcoming to all, through softly curved architectural elements, while mitigating the intense southern light with a series of colorful, sheer fabric panels, evoking a California sunset.

The café calls to the outdoors through wood accents and lush plantings that connect visitors to the natural world. —U.L.



**"I can't help but smile and be happy when I see this coffee shop. The way the colors, inspired by the pride flag, are layered make the space feel ethereal and bright, just like a multicolored sunset."**

—VERDA ALEXANDER



## HONOR / ARCHITECTURE — INSTITUTIONAL

## LA RÉFÉRENCE

Studio PHH Architecture  
Ganthier, Haiti

Designed by Brooklyn-based Studio PHH Architecture, this pair of two-story, L-shaped structures serves more than 300 K–12 students in Ganthier, Haiti. The 18,840-square-foot pro bono complex utilizes the local affordable materials, including concrete masonry unit walls and metal roofing, to ensure safety in a hurricane and seismic zone.

Tall openings on opposing sides of each interior space, coupled with open clerestories above the second floor, provide ample natural light.

Varied widths of wall openings, panelized windows, and doors enable cross ventilation and create a rhythmic, asymmetrical pattern that aids in the transfer of bearing, uplift, and shear loads to the building's foundations. The canted metal roof structure sits atop exposed steel trusses, and a covered exterior walkway connects the classrooms. The elegant project aspires to be a new school archetype in Haiti, thus the apt name, "La Référence."

—E.K.



"Every element of this project from the site design to use of color fosters community and sparks joy while maximizing the efficient use of materials and utilization of natural resources." —IMANI DAY, AIA

## HONOR / ARCHITECTURE — CULTURAL BUILDING

## FOTOGRAFISKA

CetraRuddy Architecture  
New York

Local firm CetraRuddy adapted the six-story city landmark Church Missions House into a 42,050-square-foot exhibition space for Fotografiska New York, a museum of photography.

The structure's extravagant exterior was designed by Robert Williams Gibson and Edward Neville Stent in 1894. The adaptive reuse and reprogramming of the building provide a new cultural venue for exploring art and photography.

Above a lobby on the ground floor and a restaurant on the second, the third through sixth floors offer exhibition and gathering spaces. An open steel, glass, and concrete stairway around the elevator links all of these areas.

Situated as a sustainable enterprise through its reuse of an existing structure with appropriate upgrades to mechanical systems, Fotografiska models how historic buildings can meet modern needs. —E.K.



"Fotografiska combines the spirits of the historic and the modern to create a sophisticated, inspiring experience for the public to enjoy."

—IMANI DAY, AIA





**"The use of exposed building systems, concrete, and just the right amount of wood is a textual feast for the eyes."**

— DENISE RUSH

HONOR / INTERIOR — LARGE OFFICE

## ADIDAS EVE

Studio O+A  
Portland, Ore.

When sportswear giant Adidas launched a national design competition for the expansion of its North American headquarters in Portland, Ore., Studio O+A, LEVER Architecture, and GGN formed the winning team, collaborating as interior designers, architects, and landscape architects, respectively. They began construction on the 460,000-square-foot project in the middle of a global pandemic, ultimately completing a 182,000-square-foot

office structure and a 31,000-square-foot boutique fitness center.

For the expansion, the San Francisco-based Studio O+A developed flexible office interiors where employees can make swift changes to their strategy—and to their workspaces—as circumstances change on the ground. The studio favored a stripped-down aesthetic that makes a virtue of simplicity, reusing wood from trees felled to clear the construction site to make furniture for the headquarters. —U.L.

HONOR / INTERIOR — CULTURAL INTERIOR

## MUSEUM OF TOLERANCE

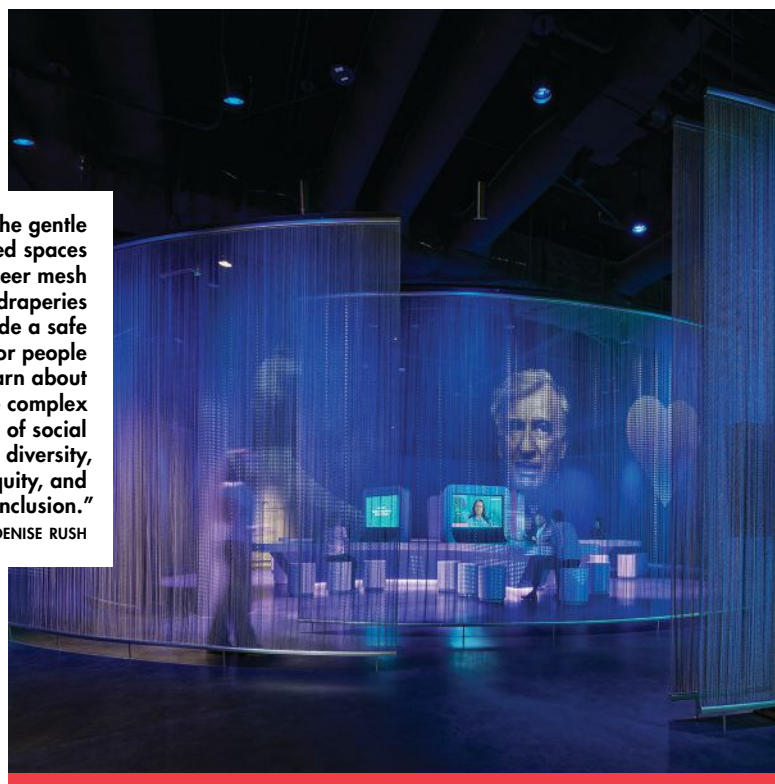
Yazdani Studio of CannonDesign  
Los Angeles

The new Claudia and Nelson Peltz Social Lab in The Museum of Tolerance is a 10,000-square-foot interactive gallery designed by Yazdani Studio of CannonDesign in Los Angeles. Located on the lower exhibition floor of the 1993 museum, the Social Lab houses three unique exhibitions that work to promote universal tolerance and inclusion.

Yazdani Studio wove technology, such as LED touch-screen

panels, throughout the spaces to better convey its message. The designers also hung veils made of metal coils from the ceiling, dividing exhibits while creating backdrops for film projections.

By organizing the exhibits to ensure seamless circulation, the design team emphasized connections between the exhibitions, empowering visitors to explore methods of action against racism, bigotry, and anti-Semitism. —U.L.



**"The gentle rounded spaces and sheer mesh coil draperies provide a safe space for people to learn about the complex issues of social justice, diversity, equity, and inclusion."**

— DENISE RUSH



HONOR / ARCHITECTURE — OFFICE BUILDING

## ZEISS MICHIGAN QUALITY EXCELLENCE CENTER

SmithGroup  
Wixom, Mich.

The two-story-tall, 80,000-square-foot Zeiss Michigan Quality Excellence Center in Wixom, Mich., was designed to represent the noted optics producer in architectural form.

Locally based SmithGroup created a two-wing solution that embraces the landscape through an open courtyard overlooked by the building's interior workspaces. The floor plan features two lab spaces, a high bay measurement lab, and a

machine showroom lab, all attached by a glazed double-height "social link" that visually connects parking and entry to the project's exterior terrace. Sustainable efforts, such as an extensive photovoltaic array on the roof, are both visible and hidden from employees and visitors.

With its simple forms sheathed in bright white metal or glazing, the building's volumes exhibit the same precision as Zeiss' products. —E.K.



**"This project succeeds in elegantly and holistically translating the culture of precision to a collaborative human experience throughout the campus."** —IMANI DAY, AIA



HONOR / ARCHITECTURE — HOSPITALITY

## CASA DI LANGA

GaS Studio  
Cerreto Langhe, Italy

The 39-unit Casa di Langa resort in Cerreto Langhe, Italy, evokes a private countryside estate in northern Italy's Piemonte region. The Milan-based GaS Studio along with Parisotto+Formenton Architetti incorporated an existing, early-2000s structure into the approximately 32,300-square-foot complex that sits within a rural setting.

The C-shaped plan centers on an open space that cascades

down the hillside in a series of landscaped terraces. External open-air corridors, each screened by brick or wood brise-soleil, provide access to individual units. Material choices of locally sourced Lucerne granite and deep red stucco, brick, wood, and roof tiles reflect the region's dominant hues, helping Casa di Langa to recast traditional forms in a contemporary manner. —E.K.

**"I love how this project displays such an enormous respect for the landscape that it is nested in. It shows a deeply rich connection to historic Italian architecture in its restrained use of color and material."**

—JOEY SHIMODA, FAIA



ABOVE: JAMES EWING; BELOW LEFT: ALBERTO STRADA;  
BELOW RIGHT: SAVERIO LOMBARDI VALLAURI



HONOR / INTERIOR — SMALL OFFICE

## ZENDESK EBC

Gensler  
San Francisco

Located in the heart of San Francisco's Mid-Market neighborhood, the headquarters for customer service software company Zendesk houses a 3,500-square-foot executive briefing center with a culinary twist. Designed by Gensler, the center is dubbed The Kitchen—a nod to its hospitality and warmth.

As guests enter this space on the sixth floor, they arrive directly at an open residential kitchen, greeted by a chef and

invited in to chop some fresh herbs for later feasts.

The cozy space offers a variety of room scales to help curate the customer journey, encompassing everything from a large dining room that doubles as a boardroom to a library with a secret bar.

Gensler accented the space with natural wood cabinetry and marble countertops, embracing a soft color palette inspired by the foggy sunsets that often define the city skylines. —U.L.

**"With great attention to detail, this small office feels cozy and inviting just like our own kitchen at home would. It is also super elegant at the same time."**

—VERDA ALEXANDER

HONOR / INTERIOR — BRANDED EXPERIENCE

## EDGE

Rockwell Group  
New York

Located on the 100th floor of Kohn Pedersen Fox's 30 Hudson Yards building in New York, the Edge is the highest outdoor observation deck in the Western Hemisphere. An experiential journey designed by Rockwell Group and its Lab design studio, the Edge places visitors in the center of western Manhattan and offers unobstructed views of the city skyline.

As visitors ride an elevator up to the observation deck,

walls seemingly fall away as hand-drawn sketches give way to city views. Upon reaching the building's highest point, the Edge cantilevers 80 feet from the building with dramatic bleacher steps giving way to a glass floor. Unlike many sky decks that are terraces on setbacks, the Edge gives visitors a breathtaking view of the city, surrounded only by glass, air, and sky. —U.L.

**"The queuing experience is elevated with strong visuals in addition to providing a view of the city on the ceiling."**

—DENISE RUSH



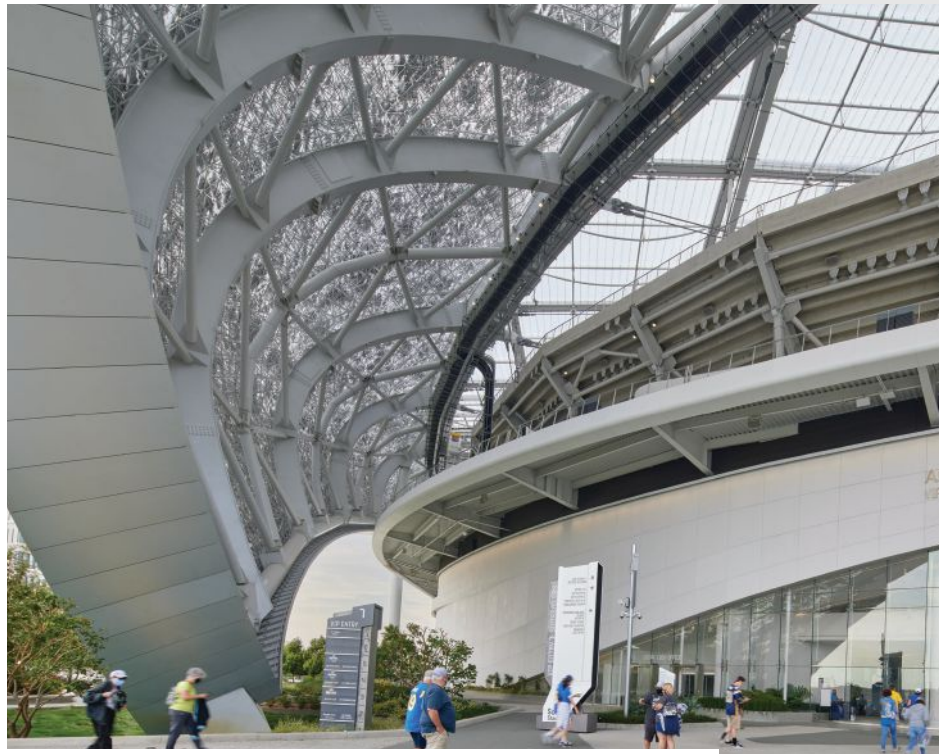
## SOFI

HKS  
Englewood, Calif.

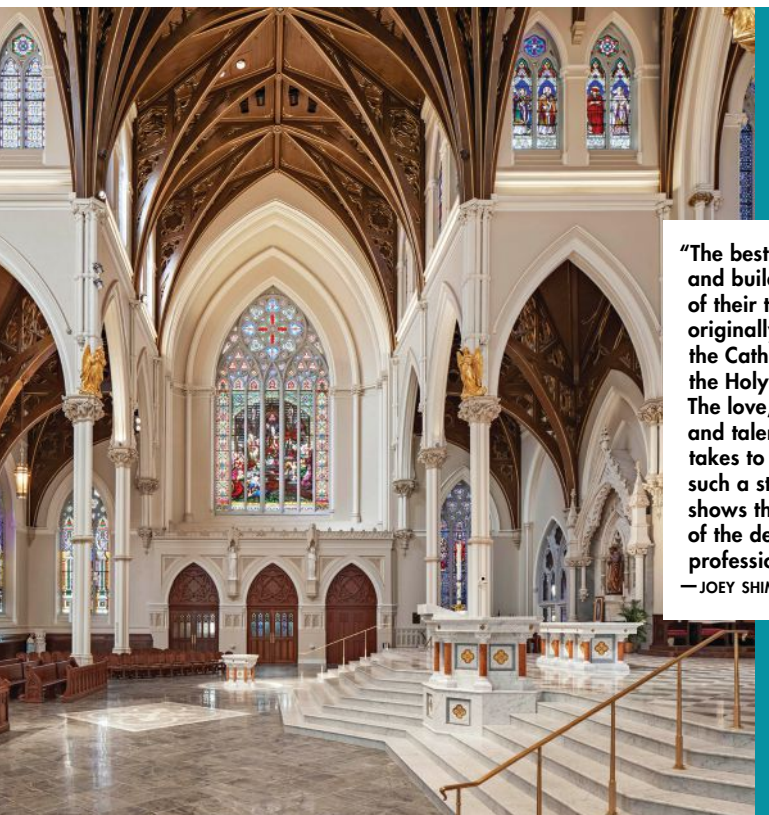
Marked by its enormous roof, the new SoFi Stadium in Englewood, Calif., is the NFL's largest sports facility. Designed by HKS, the rolling form shelters a 70,000-seat indoor-outdoor arena, a 6,000-seat performance venue, and the 2.5-acre American Airlines Plaza, all nestled 100 feet into the ground due to the field's proximity to Los Angeles International Airport.

The 19.5-acre roof is studded with more than 35,000 anodized

aluminum panels and more than 300 semi-translucent ETFE panels. An LED system embedded in the ETFE allows for projected images to entertain fans inside while forming an interactive beacon for airline passengers overhead. The aluminum panels have more than 20 million perforations that welcome light and air into the stadium, creating a distinctive microclimate that protects fans from sun and precipitation while encouraging a cooling wind.—E.K.



**"This stadium and master plan seem to be establishing a bold new direction in sports stadium design. The architecture creates a distinct sense of place to the activities all around the stadium."** —JOEY SHIMODA, FAIA



**"The best designers and builders of their time originally created the Cathedral of the Holy Cross. The love, respect, and talent that it takes to preserve such a structure shows the nobility of the design profession."**  
—JOEY SHIMODA, FAIA

## THE CATHEDRAL OF THE HOLY CROSS

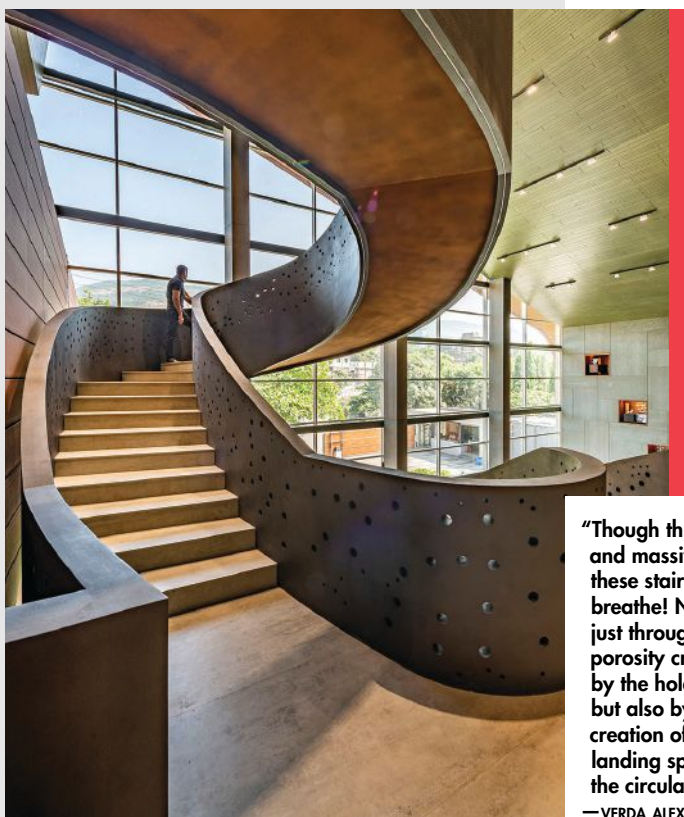
Elkus Manfredi Architects  
Boston

A comprehensive renovation and remodeling of Boston's Cathedral of the Holy Cross—an 1875 Patrick Keely-designed Gothic Revival landmark—by locally based Elkus Manfredi Architects re-imagines the structure's previously dark interior as a luminous beacon for the greater Boston Catholic community as the church approaches its sesquicentennial.

With the church's original drawings lost, the architects used

detailed laser scans to create a 3D digital model of the building. New interior finishes, including white and light gray marble floors throughout, maintained qualities of light and permanence. The nave was reconfigured for greater accessibility while maintaining the church's overall seating capacity of 1,900, and the sanctuary was redesigned to remove elements from an overcrowded 1980s renovation.—E.K.





ABOVE: NIC LEHOUX; BELOW: VINESH GANDHI

HONOR / SPECIAL ENTRY — STAIRS

## OFFICE@63

Sanjay Puri Architects  
Mumbai, India

Located in Mumbai, India, Office@63 serves as the workplace for a furniture contract company within its factory. The deft 36-foot-high multifunctional space, designed by Sanjay Puri Architects, features modular platforms that can transform into a furniture display space, a seminar hall, or an open area for employees.

Done in concrete, a dramatic and

sweeping cantilevered stairway spirals asymmetrically through the space, connecting all three levels of the office. Railing on both sides of this gray staircase are perforated, echoing details from the individual workstations in the office space and allowing for the passage of natural light. The stairway's graceful curves create an easy circulation pathway, connecting a vibrant workplace. —U.L.

**“Though thick and massive, these stairs breathe! Not just through the porosity created by the hole pattern but also by the creation of brief landing spots in the circular ascent.”**

—VERDA ALEXANDER





MERIT / ARCHITECTURE — INSTITUTIONAL

## SCHOOL NO. 3 PETITE ÉCOLE MOS

Versailles, France

The New York–based MOS refers to its School No. 3, Petite École, as a “one-room” schoolhouse. Located in the 17th-century courtyard of the Royal Stables at France’s Palace of Versailles, the 1,200-square-foot, open-air pavilion is part of Île-de-France’s inaugural Architecture and Landscape Biennial.

With a “Petite École” sign on the roof ridge, the exaggerated aluminum structure takes the form of a gabled roof. Supported by two beams sitting on 10 columns above a raised platform, the pavilion seemingly hovers over the ground.—E.K.



MERIT / INTERIOR — CIVIC/DESIGN FOR PURPOSE

## SOUNDING BOARDS / SOUNDING BOARDS GARDEN

Eastlake Studio  
Chicago

Eastlake Studio transformed plywood artworks into “Sounding Boards” murals as the centerpiece of Sounding Boards Garden, a permanent installation that makes use of a vacant lot near North Lawndale’s Harmony Community Church in Chicago. The multipurpose design intervention uses the murals as structural materials to create a semi-enclosed community space.—U.L.



MERIT / INTERIOR — SMALL OFFICE

## OLD POST OFFICE

Eastlake Studio  
Chicago

Housed inside a historic former mail-sorting warehouse in Chicago, this suite’s existing architectural assets included large, factory-style steel casement windows, high ceilings, and rustic concrete columns. Eastlake highlighted these features in the new design, also reviving a copper-colored spiraling mail chute as a sculptural focal point. Fitted with modern office amenities and retro pops of pink, aqua, burgundy, and teal, the space honors its architectural history using parquet floors, original green mosaic tile, Art Deco motifs, and a decorative trim.—U.L.



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Presented By:

# Biobased Coatings

THE NEXT STEP ON THE PATH TO CIRCULARITY IN THE BUILT ENVIRONMENT



## IMPORTANCE OF CIRCULARITY IN THE BUILT ENVIRONMENT

Over the past two decades, the building industry has made significant strides towards building more intentionally and sustainably. Architects have greatly impacted this revolution by embracing innovative technologies that are more energy- and water-efficient, are less toxic to the environment and building occupants, and are more sensitive to how raw materials are extracted and sourced. Examples of such innovations that are now common in our built environment include LED lighting, recycled materials, water-saving fixtures, and building products with lower volatile organic compounds (VOCs).

Another important and growing movement is the idea of a circular versus linear economy. Producing, consuming, and

disposing often works like a one-way street, but this linear economy of “take, make, waste” production and consumption isn’t compatible with the challenges facing the world today. To take on climate change and lower our impact on our planet, we have to move away from a single-use mindset and embed circular economic principles into design and living. The circular economy is the key to protecting the climate and natural resources.

Our society must find new ways of putting our world’s limited resources to good use—and reuse. This means making products that last for as long as possible, avoiding waste, and viewing used products as a resource, recovering everything we can from them to recycle along the value chain. It also means exploring alternative sources of sustainable raw materials to replace fossil resources, such

## LEARNING OBJECTIVES

1. Examine the environmental impact of petroleum-based coatings and how they hinder goals toward sustainability and circularity in the built environment.
2. Explore the building blocks of biobased coating products and how biobased feedstocks are sourced and used.
3. Analyze how biobased paints, coatings, and sealants meet the coating industry’s goals for environmentally conscious products with high performance.
4. Discover innovative biobased developments for wall, trim, floor, and roof coatings.

## CONTINUING EDUCATION

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as used materials, waste, and biomass.

Transitioning to this kind of circular world is a visionary project for society as a whole, and it’s gaining traction. By working together, we can take strides, not steps, helping make our planet a more sustainable, healthier, cleaner place to live. In accelerating this transition, the building industry and all the suppliers of raw materials and building products have a prominent role to play. Buildings are the backbone of where we live, work, and play, and are therefore the key to solving many of today’s pressing issues.



So, what is the next step in improving the sustainability and circularity of the built environment? Some believe the answer is biobased products, including paints, coatings, and sealers. When asked about biobased paints, Bill Miller, COO and vice president of Pittsburgh Gateways, and president of Pittsburgh Green Innovators stated, “The Energy Innovation Center (EIC) is a leader in green adaptive building reuse and meets the highest standards of sustainability and energy efficiency, while preserving the historical character of the building. For these reasons, the Energy Innovation Center building, which is listed on the National Register of Historic Places, achieved LEED Platinum certification by utilizing state-of-the-art products and technologies, and continues to utilize emerging energy efficient technologies and environmentally sustainable products to improve industry standard product selection and influence design ‘best practice’ methods. Since wall and floor coatings represent such a large surface area, had biobased coatings been available to source at the time, I’m confident this would have been a very desirable product component EIC designers and engineers would have incorporated into the interior design.”

These products are used so ubiquitously throughout buildings for interior wall, door, trim, and floor coatings, in addition to concrete sealers, exterior paint, and roof coatings, that they could make a significant impact on the environment as a whole if widely adopted. Adoption will ultimately be accomplished through regulation, consumer demand, and corporate sustainability initiatives. And the time for the next step is now.



For years, the paint and coatings industry has aggressively looked for strategies to manufacture products in an environmentally conscious way, without compromising product performance. Manufacturers are now aiming to make plant-based paint ingredients that perform as well as or better than traditional products and have a low impact on the planet.

### COATING MANUFACTURER EFFORTS TO MEET INCREASINGLY STRINGENT VOC REGULATIONS

Coatings are typically named for the binder, or resin, from which they’re made, such as alkyds, polyurethanes, acrylics, and epoxies. But coatings are also composed of additives that give them specific performance properties, pigments that provide color, and liquefying agents such as solvents that allow for easy application. Solvents can take the form of water or chemicals, hence the terms “waterborne” and “solventborne.”<sup>2</sup> Water

is called the “universal solvent” because its chemical composition and physical attributes allow it to dissolve more substances than any other liquid.<sup>3</sup> Many waterborne coatings have very low VOC levels, making them ideal in projects located in areas with strict VOC regulations. Solventborne coatings tend to have higher VOC levels, so many manufacturers have been forced to switch to low-solvent technologies such as high-solids or waterborne systems, but “these technologies have their own inherent limitations that can make them more expensive and less convenient to use than the traditional lower-solids formulations. An alternative approach to these technologies is to use VOC-exempt solvents such as acetone and PCBTF, but both have performance features that make them less-than-ideal solvents for coatings.”<sup>4</sup>

For years, the paint and coatings industry has aggressively looked for strategies to manufacture products in an environmentally conscious way without compromising product performance. According to the American Coatings Association, “Volatile organic compound emissions from architectural coatings have drastically

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*“Before becoming successful with biobased ingredients one needs to understand sustainability from a holistic perspective. Being able to define what sustainability really means was one of the challenges and great learning experiences our organization went through. Sustainability is everything from biobased content to reduced carbon footprint, low toxicity, and sustainably sourced materials. These are some but certainly not all factors. Understanding the connection between these elements and building a compelling portfolio around them with our [biobased brands] was a major step.”<sup>1</sup>*

–Tim Gratzke, Decovery Marketing Manager

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decreased over the last few decades (50%), even while the use of architectural coatings has increased over the same period nationwide. California's South Coast Air Quality Management District (SCAQMD) estimates that VOCs from architectural coatings in the Los Angeles area—the air basin with the most severe air quality issues in the country—decreased by over 50% between 2008 and 2014.” And “More than 90% of architectural coatings sales in the United States are now for environmentally preferable water-based paint.”<sup>5</sup> This represents the first step in the journey for the paint and coatings industry toward more environmentally-friendly products.

That being said, you may be surprised to learn that most of today's paints still contain 30–80% crude oil. With their large carbon footprints and fossil-based ingredients, their manufacture is still contributing to greenhouse gases and global warming. Manufacturers are now aiming to make plant-based paint ingredients that can perform just as well and have a low impact on the planet; the aim is to reduce the toll even more by creating paints with no fossil fuels at all.

### INTRODUCTION TO BIOBASED PAINTS, COATINGS, AND SEALANTS

As we just noted, the basic backbones of paints, coatings, and sealers are resins (binder), liquids (either solvent or water), pigments, and additives. Each of these components provides an important attribute to the finish's composition, including ease of application, durability, and long-lasting color, among other important performance measures. Fortunately, renewable raw



Biobased coatings improve the indoor air quality of the buildings we live, work, and go to school in, which ultimately benefits the health, safety, and welfare of building occupants.

materials can be used to produce biobased resins with properties similar to traditional paint resins.

“Use of bio-based raw materials in coatings is not a recent development and their use actually pre-dates the use of petrochemicals.”<sup>6</sup> Long ago, before coatings manufacturers began producing paints and coatings with sophisticated and complex chemical compositions, coatings were actually made of biobased materials such as linseed oil and tallow. People used what could be found naturally. In the more recent past,

*“We believe that the pathway to decarbonization can be significantly accelerated through the built environment. Because buildings significantly contribute to the world's dependence on GHG, and buildings have decades-long impacts, addressing the built environment has the potential to be a game-changer for global decarbonization. I am confident that when all parts of the real estate and building ecosystem—designers, suppliers, constructors, owners, and operators—each do their part, we will have a massive carbon reduction in this important sector.”*

—Diane Hoskins, FAIA, NCARB, Co-CEO at Gensler

### GLOSSARY

**Biobased Product**—A commercial or industrial product derived from raw materials such as plants and other renewable agricultural, marine, and forestry materials; it generally provides an alternative to conventional petroleum-derived products and includes a diverse range of offerings such as lubricants, detergents, inks, fertilizers, and bioplastics.

**C14 Tracking**—A carbon dating method that measures and compares the ratio of Carbon 14 (C14) to Carbon 12 (C12) in the material; material derived from recent biological matter has a higher ratio of C14 to C12 than material obtained from fossil sources such as coal and oil.

**Circular Economy**—A model of production and consumption that involves sharing, leasing, reusing, repairing, refurbishing, and recycling existing materials and products as long as possible to extend the life cycle of products.

**Feedstocks**—Raw material that is used to produce goods or supply energy; biobased feedstocks can include corn, linseed, castor beans, and soy beans, among many others.

**Greenhouse Gases (GHGs)**—Gases such as carbon dioxide, methane, and nitrous oxide that trap heat in the atmosphere and contribute to global warming.

**Mass Balance**—An approach that makes it possible to track the amount and sustainability characteristics of circular and/or biobased content in the value chain and attribute it based on verifiable bookkeeping; mass balance certification across the entire value chain based on the International Sustainability & Carbon Certification (ISCC) PLUS standard helps manufacturers to achieve complete transparency for customers.

**Solvent**—A liquifying agent that helps binders, pigments, and additives dissolve into the coating; coatings may be solventborne or waterborne.

**Solventborne Coatings**—Coatings that contain organic compounds as solvents; these liquifying agents are meant to evaporate via a chemical reaction with oxygen.

**Volatile Organic Compounds (VOCs)**—Chemicals emitted as gases from certain solids and liquids that vaporize at room temperature and are the leading cause of ground-level air pollution.

**Waterborne Coatings**—Paints manufactured with water as the solvent; they have lower VOC levels but don't necessarily contain zero organic solvents, as some contain co-solvents present in lower concentrations that help push the rest of the water out of the coating as it dries.<sup>25</sup>



coatings used in the built environment have been manufactured with petroleum-based raw materials, but the tide is changing and biobased resins are quickly becoming a point of interest in the construction industry.

Regulations are increasingly favoring the return to biobased coatings, particularly due to more stringent limitations on the use of VOCs in consumer products and a growing awareness of sustainability. And, of course, when used in coatings with ultra-low VOC, they improve the indoor air quality of the buildings we live, work, and go to school in, which ultimately benefits the health, safety, and welfare of building occupants. But biobased alone will not satisfy the industry's needs. Paints and coatings must provide higher performance and better weathering properties, moisture resistance, and resistance to most staining agents. And in a post-pandemic world, durability in the form of scrub and disinfectant cleaner resistance will also be key.



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## SPONSOR INFORMATION



As an innovation leader in the development of high performance coating and sealant raw material technologies, Covestro, LLC enables architects, designers and building owners by providing real world solutions for built environment challenges. Covestro, LLC develops coating and sealant solutions for flooring, interior and exterior walls and trim, and roofing and waterproofing with high performance and sustainability in mind.

## QUIZ

- Which of the following is an important tenet of a circular economy?
  - Make products that last for as long as possible
  - Avoid waste
  - Recycle along the value chain
  - Use sustainable raw materials to replace fossil resources
  - All of the above
- \_\_\_\_\_ coatings tend to have higher VOC levels, so many manufacturers have been forced to switch to low-solvent technologies such as high-solids systems.
  - Inorganic
  - Waterborne
  - Solventborne
  - Co-solvent
- Most of today's paints still contain \_\_\_\_\_ % crude oil, so their manufacture is still contributing to greenhouse gases and global warming.
  - 5-10
  - 15-35
  - 20-30
  - 30-80
- Coating industry experts generally believe that petroleum-based \_\_\_\_\_ have the greatest potential of all the coating building blocks for replacement with biobased alternatives.
  - Resins
  - Solvents
  - Pigments
  - Additives
- The \_\_\_\_\_ approach has been increasingly used in the chemical industry over the past several years to trace the flow of materials through a complex value chain, which is an important milestone on the goal to a circular economy.
  - Biomass
  - Mass balance
  - Bioattribution
  - Lifecycle
- There has been \_\_\_\_\_% market growth from sustainable products from 2013 to 2018, with 5.6 times faster growth than conventionally-marketed products.
  - 30
  - 40
  - 50
  - 60
- Which of the following plays a large role in the adoption of new biobased technologies and successful future innovation?
  - Scale
  - Affordability
  - Performance
  - Environmental impact
  - All of the above
- Recently, a major resin supplier to the architectural paint market developed a new and unique plant-based line of resins that allows paint formulators to create wall, door, trim, and wood floor paints and coatings down to zero VOC with bio-based content in the \_\_\_\_\_% range, depending on the resin type and its application.
  - 12-15
  - 25-42
  - 35-52
  - 52-75
- One polyurethane raw material supplier has developed a new aliphatic hardener, the first in the market in over 30 years, that has replaced a significant amount of the fossil-based carbon content backbone with up to \_\_\_\_\_% of bio-based material.
  - 40
  - 50
  - 60
  - 70
- By incorporating a biobased aliphatic hardener with an existing biobased resin, formulators are working to create durable, energy saving roof coatings that contain over \_\_\_\_\_ percent biobased content.
  - 40
  - 45
  - 50
  - 55



# Considerations for Accessible and Inclusive Design in Commercial Restrooms

Presented By:




## LEARNING OBJECTIVES

1. Examine the history of ADA and inclusive design, including the evolution of design awareness in the commercial restroom space.
2. Review implications of the Americans with Disabilities Act on commercial restroom design and plumbing product specification.
3. Explore innovations that enable ADA compliance and inclusive design in commercial restrooms.
4. Understand simple ways to retrofit existing restrooms for ADA compliance and inclusive design.

## CONTINUING EDUCATION

This course is approved for AIA, GBCI, IDCEC and ASPE Learning Unit Credits.



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## INTRODUCTION

As we move into a more hygiene-focused world, restroom visitors will expect clean, updated spaces that feel welcoming and safe. Larger, more spacious floor plans; easy-to-clean surfaces; and touch-free fixtures are becoming more common. At the same time, barrier-free, accessible, and inclusive design is putting a greater emphasis on optimizing the planning of commercial restrooms so that they are safe, comfortable, and easy for all occupants to use. Designing accessible spaces empowers users with special needs. It also provides an easy-to-use restroom for all, including transgender, nonbinary, and gender-fluid individuals; breastfeeding mothers; children; those of shorter stature; and the elderly. Commercial restrooms

designed with accessibility and inclusivity in mind successfully bridge the gap between practicality and physical, mental, and emotional well-being.

## HISTORY OF THE AMERICANS WITH DISABILITIES ACT

During the civil rights era, there was growing awareness of the need to accommodate building occupants with disabilities and prohibit discrimination. In 1973, the United States Access Board was created as an independent federal agency to develop and enforce accessibility standards. Nevertheless, it wasn't until 1982 that the Access Board published the first comprehensive *Minimum Guidelines for Accessible Design*. Another eight years later, in 1990, the Americans

with Disabilities Act (ADA) expanded the responsibilities of the Access Board beyond federal facilities to include airports, bus and rail stations, and many other public and private facilities—not just those funded by the government. The Americans with Disabilities Act was signed into law on July 26, 1990, by President George H.W. Bush.<sup>1</sup>

Per the Civil Rights Division of the U.S. Department of Justice, “To be protected by the ADA, one must have a disability, which the ADA defines as a physical or mental impairment that substantially limits one or more major life activities, a person who has

a history or record of such an impairment, or a person who is perceived by others as having such an impairment. The ADA does not specifically name all of the impairments that are covered.” The ADA prohibits discrimination, guaranteeing that people with disabilities have the same opportunities as everyone else. Modeled after the Civil Rights Act of 1964 prohibiting discrimination based on race, color, religion, sex, or national origin, it is an “equal opportunity” law for people with disabilities.

In 2010, the ADA was revised to adopt regulations that made accessibility standards enforceable. The 2010 ADA Standards for Accessible Design set requirements for new construction, alterations, program accessibility, and barrier removal, essentially mandating that all public and private commercial facilities that provide goods or services to the public (aka public accommodations) must comply with the law.

In April 2020, the ADA came out with a supplementary guide to help us better understand and implement the requirements in the 2010 ADA Standards for Accessible Design. It is designed, in part, to add clarity to ADA requirements for toilet rooms and fixtures and is called The United States Access Board Guidance for Toilet Rooms.

### EVOLUTION OF INCLUSIVE DESIGN

Over the past decade, society has had the chance to rethink discrimination, with growing social awareness of gender identity, differently abled individuals, and sensory sensitivity. While discrimination based on sex is prohibited, and sensory sensitivity could technically fall under ADA (remember, ADA does not explicitly name all covered impairments), there are gray areas that must be addressed. The public restroom is one space that has come under intense fire during this social evolution. A growing number of people identify with a gender they weren't assigned at birth, and confusion has arisen as to which restroom they should use. Public restrooms can also be very overwhelming for those with sensory processing disorder or other forms of auditory, tactile, and visual sensitivity, including to colors, lights, and patterns. Loud hand dryers, flushing toilets, paper towel dispensers, bright lights, and general noise in restrooms can induce anxiety.<sup>2</sup>

In the recent past, others have also fought for accommodations, including breastfeeding mothers and diaper-changing caregivers who found that changing tables were typically located only in women's restrooms. On March 23, 2010, the Patient Protection and Affordable Care Act (also known as the Affordable Care

Act) amended section 7 of the Fair Labor Standards Act (FLSA) to require employers with 50 employees or more to provide breastfeeding mothers with a private space to pump or nurse that is not a bathroom, as well as reasonable break time to do so for one year after the child's birth.<sup>3</sup> Then, on October 7, 2016, President Barack Obama signed a bill called the Bathrooms Accessible in Every Situation (BABIES) Act, which requires that changing stations that are “physically safe, sanitary and appropriate” be available in both women's and men's bathrooms in federal buildings open for public use.<sup>4</sup>

Single-occupancy, all-gender restrooms provide safe spaces for everyone, especially trans, nonbinary, and gender-fluid individuals. From 2012 to 2013, 150 university campuses installed gender-neutral restrooms, along with several high schools, and in 2015, the first all-gender restroom in the White House was introduced.<sup>5</sup>

Each of these scenarios, and many more, helped evolve inclusive design in the commercial restroom. Although these laws apply only to specific scenarios, the hope is that they set the groundwork for all facilities to provide more barrier-free, inclusive options and for designers to lead the charge in normalizing these accommodations. In an extensive study regarding restroom access for transgender people and the historical precedence for segregated restrooms, architecture firm Gensler discovered that “restroom access goes far beyond the transgender community, affecting nearly everyone: parents, caregivers, private people, people with disabilities, and people living with special medical needs, among others.”<sup>6</sup>

Restrooms remain one of the few gender-segregated spaces in our built environment. The U.S. Department of Health and Human Services and the U.S. Department of Labor mandate separate facilities by gender and male-to-female restroom ratios. Gensler found that “Many transgender people either face harassment and violence when seeking to use public restrooms or are excluded entirely from their restroom of choice by policies or staff ... Safe, dignified access to public restrooms is a human right—it is essential for an individual's participation in civic life, the workplace, and school.”



Proximity, privacy, and cleanliness are three key concerns when designing restrooms for inclusivity. Universally, people want to feel safe and comfortable in the restroom, so single-occupancy solutions are ideal, as they maximize privacy and flexibility, and allow usage based on gender identity.



For further research into the history and subject of inclusive restroom design, considering looking into the Stalled! project, which “takes as its point of departure national debates surrounding transgender access to public restrooms to address an urgent social justice issue: the need to create safe, sustainable and inclusive public restrooms for everyone regardless of age, gender, race, religion and disability.” <https://www.stalled.online/#video>

### Providing Proximity, Privacy, and Cleanliness for Inclusive Design

Proximity, privacy, and cleanliness are three key concerns when designing restrooms for inclusivity. Universally, people want to feel safe and comfortable in the restroom, so single-occupancy solutions are ideal, as they maximize privacy and flexibility, and allow usage based on gender identity. However, when single-occupancy stalls are not feasible, designers can incorporate privacy measures via ambient noise, floor-to-ceiling doors, and amenities within individual stalls, such as paper towels, full-length mirrors, and hygiene products. In addition, all signage should be gender-inclusive, and for added security, each stall should have a visual lock that displays occupancy. Another option is hybrid solutions that provide single-user options alongside gender-segregated facilities with shared sinks. Or facilities can provide floor-to-ceiling multi-stalls that provide privacy for all users and are available to people of all genders.<sup>7</sup>

We live in an era of changing cultural norms, and providing these options is an excellent way for facilities to get ahead of the changing times.<sup>8</sup> No matter what strategy is used, inclusive restroom design should be built in from the beginning, providing proactive accommodation, rather than waiting for issues to arise. Forward-thinking businesses and organizations that value inclusion will be the change agents, rather than policy, and designers can help in this effort by facilitating discussions with clients and building occupants. This will help ensure the evolution of restroom design moves toward a safer and more comfortable environment for all.

Note: The 2018 International Building and Plumbing Codes will include “gender-neutral” restrooms as proposed by the AIA (403.1.2; IBC 2902.1.2).



Plumbing product manufacturers almost always recommend choosing the maximum height limit for placement of a grab bar, which is 36 inches; this will make meeting proximity requirements for other fixtures and accessories easier.

### IMPACT OF ADA IN THE COMMERCIAL RESTROOM

The Americans with Disabilities Act has many implications for designing and specifying products for commercial restrooms. First,

let’s explore how ADA standards apply to plumbing products. Note: We will not discuss commercial restroom layout, size, or accessible pathways but instead focus on restroom fixtures such as toilets, urinals, grab bars, and lavatories.

#### Toilets and Grab Bars

Grab bar heights are measured to the top of the gripping surface, and when ranges in heights are provided, attention should be given to the optimal product for compliance. Plumbing product manufacturers almost always recommend choosing the maximum height limit for placement of a grab bar, which is 36 inches. This will make meeting proximity requirements for other fixtures and accessories easier.

#### Exposed Flushometer

To resolve conflicts between the rear grab bar and the required location of exposed flushometers, the grab bar must be split or shifted to the open side. This is permitted

## GLOSSARY

**Adaptive Sensing**—Digitally calibrated electronics automatically adjust to environmental conditions, preventing false faucet starts while maintaining operational sensitivity; the self-adaptive sensor automatically adapts itself around permanent “targets” in the sensor’s environment, such as a wall or stall, so that it can more easily recognize nonpermanent targets.

**Americans with Disabilities Act (ADA)**—Signed into law on July 26, 1990, the ADA is one of the U.S.’s most comprehensive pieces of civil rights legislation; it prohibits discrimination and guarantees that people with disabilities have the same opportunities as everyone else to participate in mainstream U.S. life.

**Anti-scald Technology**—Water is mixed as it passes through the spout of the faucet via an integrated thermostatic mixing valve; the mixer lever can be set to a desired temperature and can be removed for facilities where tamper resistance is required.

**Automatic Doors**—Restroom stall doors that save space, are accessible, and increase privacy because there is no “gap” between stall partitions.

**Electronic Sensing Technologies**—Electronic plumbing fittings that offer sanitary, touch-free operation while conserving water and energy in that they dispense water only when the sensor detects a user and can also limit water delivery duration.

**Electronic Soap Dispenser**—Sensor-activated soap dispensers automatically dispense a premeasured amount of liquid or foam soap to reduce waste while delivering the convenience of touch-free operation.

**Deck-mounted Hand Dryer**—A hand dryer coupled with a fabricated sink that has an air dam designed to “capture” the high volume of air, preventing water or soap in the sink from exiting.

**Multilevel Sink**—Fabricated sink constructed in a waterfall shape with one sink higher and the next sink stepping down to provide lower access for children or those in a wheelchair.

**Occupancy Sensors**—A new technology that improves guest experience by indicating whether a stall is in use, reducing wait time and guiding patrons to the next available restroom stall.

**Open Front Basin**—Open front basin sinks feature a front that is open to the user (no lip at the front, for easy reach to the faucet), making them more accessible to those in wheelchairs and children because the faucet is easier to reach due to the lower, open front edge.

only where applicable codes mandate flush controls in such a location. Automatic, motion-activated flushometers are not required to be on the open side of the water closet. Suppose a water closet has a manual flush control in addition to a motion-activated one. In that case, it is recommended, but not required, that the manual control be located on the open side of the water closet.

An alternative to the split grab bar is a product called an offset adapter, which does not require the split grab bar. This unassuming adapter creates enough space for an ADA-compliant grab bar by lowering the total height of the flushometer by 1.5 inches without having to relocate the water supply inlet pipe. It's a simple update that saves facilities from the costs and complexities of opening walls or workarounds like split grab bars. This product is precisely engineered to offer maximum performance in minimal space. Computational fluid dynamic (CFD) analysis and finite element analysis (FEA) ensure the tight offset maintains adequate pressure and flow to the flushometer.<sup>9</sup>

When choosing top-mount sensor products, be sure to rough in the water supply at 10 inches (instead of the usual 11.5 inches) so there is space (1.5-inch clearance) between the top of the flushometer and the bottom of the grab bar located above it.



**This article continues on**  
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**Go online to read the rest of the CEU course, complete the corresponding quiz for credit, and receive your certificate of completion.**

## SPONSOR INFORMATION



Sloan is the world's leading manufacturer of commercial plumbing systems. Sloan has been at the forefront of the green building movement since 1906 and provides sustainable restroom solutions by manufacturing water-efficient products such as flushometers, electronic faucets, soap dispensing systems, sink systems, and vitreous china fixtures for commercial, industrial, and institutional markets worldwide.

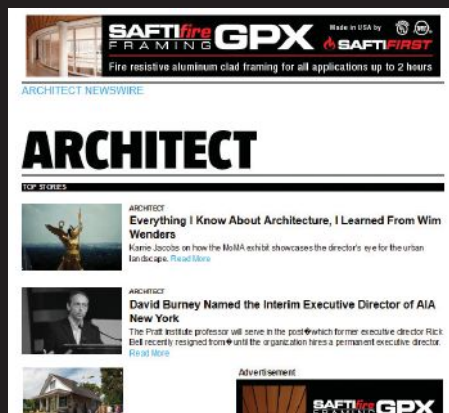
## QUIZ

- Designing accessible and inclusive spaces empowers users with special needs and provides an easy-to-use restroom for which of the following groups?
  - Transgender, nonbinary, and gender-fluid individuals
  - Breastfeeding mothers
  - Children
  - Elderly
  - All of the above
- In what year was the Americans with Disabilities Act signed into law?
  - 1973
  - 1982
  - 1990
  - 2010
- Universally, people want to feel safe and comfortable in the restroom, so \_\_\_\_\_ are ideal, as they maximize privacy and flexibility, and allow usage based on gender identity.
  - Single-occupancy stalls
  - Amenities within individual stalls
  - Hybrid solutions
  - Floor-to-ceiling multi-stalls
- \_\_\_\_\_ save space, are accessible, and increase privacy because there is no "gap" between stall partitions; they can also come with acoustic seals on four sides of the door to help enhance privacy and reduce indoor noise.
  - Automatic stall doors
  - Single-occupancy stalls
  - Sensor-activated entry/exit doors
  - Hybrid restrooms
- Plumbing product manufacturers almost always recommend choosing the maximum height limit for placement of a grab bar, which is \_\_\_\_\_ inches.
  - 30
  - 32
  - 34
  - 36
- A/an \_\_\_\_\_ creates enough space for an ADA-compliant grab bar by lowering the total height of the flushometer by 1.5 inches without having to relocate the water supply inlet pipe.
  - Exposed flushometer
  - Offset adapter
  - Split grab bar
  - Concealed flushometer
- The lavatory or counter surface must not be higher than \_\_\_\_\_ inches above the finished floor, and fixtures must include knee and toe clearances.
  - 30
  - 32
  - 34
  - 36
- When were the first hands-free commercial sensor faucets introduced?
  - 1974
  - 1980
  - 1987
  - 1991
- With \_\_\_\_\_, digitally calibrated electronics automatically adjust to environmental conditions, preventing false faucet starts while maintaining operational sensitivity.
  - Sensor range adjustment
  - Adaptive sensing
  - IoT connectivity
  - Anti-scald technology
- Which of the following is a simple way to retrofit existing restrooms for ADA compliance and inclusive design?
  - Install an ADA offset flushometer adapter
  - Install plumbing wrap
  - Install faucets with anti-scald technology
  - Add connected products with alerts
  - Add a three-in-one deck-mounted faucet, soap dispenser, and hand dryer
  - All of the above



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# Editorial: What's Next

TEXT BY PAUL MAKOVSKY

The global pandemic has changed the world, and its continuing stresses are affecting all segments of the architecture and design industry, as well as society at large. Barring any unexpected catastrophes, we can start to look forward to shaping our futures rather than just grinding through the present. With the challenges facing the industry and the planet, the ARCHITECT team reached out to a variety of architecture and design leaders and asked them what they predict will be the biggest disruptors to the field this year.

For some design leaders, it's smaller interventions that are having a bigger impact on their communities. For Imani Dixon, AIA, one example is PopCourts! in Chicago, which not only activates underutilized space and deepens community engagement but also elevates outdoor gathering spaces, which have become essential during the pandemic. Likewise in New York, Ben Prosky, ASSOC. AIA, sees that the Open Restaurants program—where restaurants can take over parking spots to expand outdoor dining—along with Open Streets—wherein blocks are routinely closed to traffic for recreation—have changed the way New Yorkers experience public space.

Not surprisingly, many designers see climate action, sustainability, and equity as key forces affecting our profession and the way we design. April Hughes, AIA, and Kelly Moynihan, AIA, believe it's the responsibility of architects to immediately implement strategies to combat the climate crisis, beginning with dramatic carbon reductions. Tiffany Brown, ASSOC. AIA, reminds us that we all need to refocus on the National Organization of Minority Architects' licensure goal to increase the number of Black architects, which still hovers at 3% of licensed architects, and that continued conversations with those in power are critical to implement necessary change.

Of course, we can never escape how technology disrupts society, whether good or bad. Leslie Lok sees that augmented-reality and mixed-reality technologies have become an increasingly popular area of research



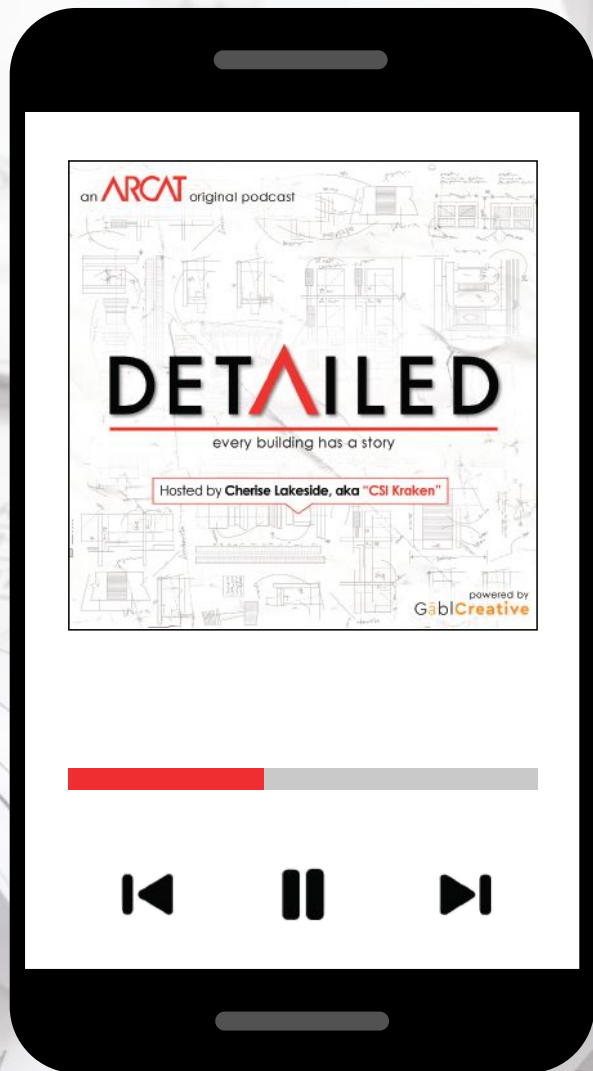
Jordan Goldstein, FAIA, predicts the new electric vehicles are disrupting mobility on a much bigger scale, whereby the entire "front door" of a building will be reconsidered, impacting everything from the real estate at charging stations to the planning of a neighborhood or a city.

in architectural design and manufacturing, predicting that Fologram's new program TwinBuild will continue to gain accuracy and broader user implementation, further disrupting the building industry.

Movements of people joining forces for the greater good are gaining traction in new ways. For Siboney Díaz-Sánchez, Dark Matter University is a great model that will continue to challenge the ways in which architecture education is defined and, in turn, the trajectories of design discourse. And not all disruptors are design-focused. For David Polzin, AIA, the mental health crisis is taking its toll on everyone, but it's also an incredible moment for architecture to design for deep human needs and to nourish our collective soul.

Whatever ideas, policies, projects, or people you think will be drivers for change in 2022, we all have our work cut out for us. As an optimist, however, I believe these emerging priorities and ideas in design will help us build better buildings and communities for the many, and not just the very few.

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