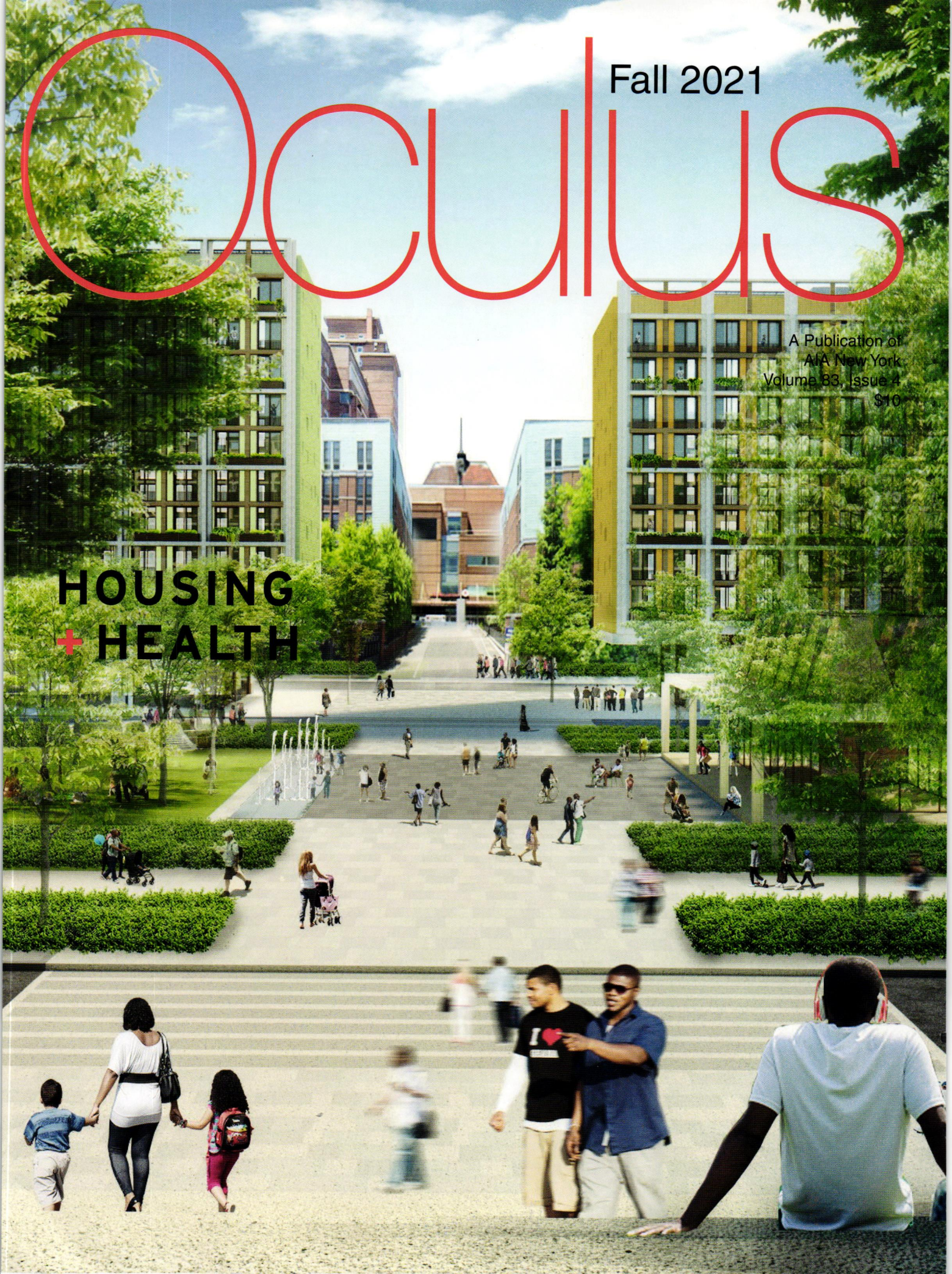
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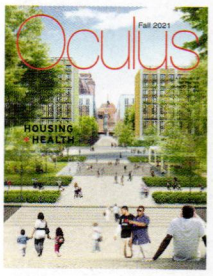

Cover: Another part of the Vital Brooklyn Initiative, Adjaye Associates and Harlem-based landscape architecture firm Studio Zewde will redesign an underutilized portion of the Kingsboro Psychiatric Center campus in East Flatbush, Brooklyn, as a 900-apartment residential community, anchored by a shopping center and public green space. Cover image courtesy of Adjaye Associates

Above: Dattner Architects' design for Vital Brookdale, part of the Vital Brooklyn Initiative, will create 160 affordable housing units and approximately 25,000 square feett of health-focused community space in the Brownsville neighborhood of Brooklyn. Courtesy of Dattner Architects and clients: MDG Design & Construction LLC; Smith & Henzy Advisory Group; The New York Foundling

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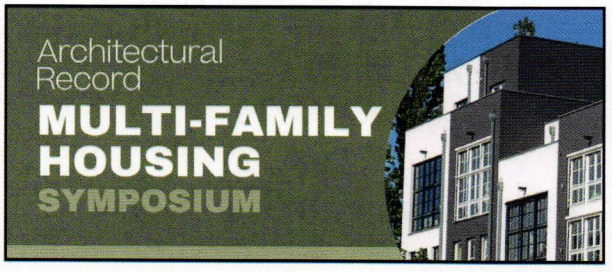

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LETTER FROM THE PRESIDENT

COMING TOGETHER ON HOUSING

Photo: Yvonne Albinowski

As we return to our offices and, in many cases, to our city, it seems appropriate to take a moment of reflection. Up until the very moment we "sheltered in place" last March, we were at the crest of a wave of massive growth in urban areas, as people chose to congregate in more "livable" communities that offer access to transportation, amenities, recreation, and employment. Recently released census results show that urban growth is taking place at a far greater pace than most realized. New York City is leading the charge, adding over 600,000 new residents from 2010 to 2020, a growth of 8%.

This continued growth has impacted our infrastructure, transportation, schools, power, and roads, but in a particularly deep and unsustainable way, our housing. The population growth and its exaggerated pressure on valuations has exacerbated the housing crises faced by many cities, especially New York. Despite an 8% population growth, the city experienced only a 4% increase in housing, demonstrating that housing supply—particularly affordable housing—has not kept up with demand. As a result, economically disadvantaged New Yorkers are being driven out of their neighborhoods. Furthermore, the geographic distribution of affordable housing in lower-income areas reinforces the growing wealth gap in the city.

Our city's housing crisis is a product of political decision-making over the course of many years. To limit the power of unelected officials like Robert Moses, the city rightfully undertook many land-use reforms during the latter part of the 20th century. Community boards and council members were given a formal say in land use, while neighborhood organizations gained political clout. Though at the time these were lauded as reforms in participatory democracy, there were signs of potential peril. Reflecting on New York City's land-use reforms as they were occurring in the late 1970s, the famed sociologist Daniel Bell wondered, "Should a neighborhood group be allowed to veto a city plan that takes into account the needs of a more inclusive polity?"

As architects, we face this paradox, desiring to preserve the physical character of neighborhoods while creating welcoming new spaces. Though at times we may be stifled by many forces in our quest to build more housing, it is crucial that we work with community boards, city agencies, and elected officials to foster open conversations about design. This is why AIA New York has secured the appointments of 40 AIANY members to community boards, advocated on behalf of the NYC Department of City Planning's SoHo/NoHo rezoning, and successfully supported pro-housing candidates in the recent Democratic primaries for elected city offices. As we all know, these are difficult issues to solve. As we work toward finding solutions, we need to understand the economic forces involved, the underlying complexities in decision-making, and the true heart of why we find ourselves here.

Our city will have a host of newly elected officials in 2022. They will need to address some very pressing housing issues, including comprehensive planning, converting hotels and offices to housing, designing and building new shelters, appointing community board members, and rezoning neighborhoods. AIANY has a responsibility to challenge our city's leaders to build new housing and educate them on how the expertise of architects is so crucial to implementation. ■

Ken

Kenneth A. Lewis, AIA, NCARB
2021 AIANY President

CONTRIBUTORS TO THIS ISSUE

Alexander Gorlin, FAIA, ("Affordable Housing in New York: A Primer") is the principal of Alexander Gorlin Architects, an architectural critic, and the author of five books, including *The New American Townhouse*, *Tomorrow's House*, *New England Modernism*, and *Kabbalah in Art and Architecture*. His wide-ranging practice consists of affordable and homeless housing, high-end residential, religious buildings, and, recently, the renovation/adaptive reuse of Saarinen's Bell Laboratories.

Karen Kubey ("Lit Review: Healthy Housing") is an urbanist specializing in housing and health. She is the editor of *Housing as Intervention: Architecture towards Social Equity* (Architectural Design, 2018), and served as the first executive director of the Institute for Public Architecture. Kubey co-founded the New York chapter of Architecture for Humanity (now Open Architecture/New York), and co-founded and led the New Housing New York design competition.

Brian Loughlin, AIA, APA, ("Healthy Homes Grow in Brooklyn" and "Decent, Safe, and Sanitary: Is Housing Health?") is director of planning and urban design at Magnusson Architecture and Planning PC.

Bill Millard ("Home Sweet Office: Commercial-to-Residential Conversions") contributes regularly to *Oculus*, the *Architect's Newspaper*, *Metals in Construction*, *Annals of Emergency Medicine*, and other publications. His book *The Vertical and Horizontal Americas*, assisted by a Graham Foundation grant, moves glacially forward.

Victoria Newhouse ("Affordable Housing in New York: A Primer") is an architectural historian who has written extensively on the architecture of cultural facilities. She is the author of *Parks of the 21st Century: Reinvented Landscapes, Reclaimed Territories; Chaos and Culture: Renzo Piano Building Workshop and the Stavros Niarchos Foundation Cultural Center in Athens; Site and Sound: The Architecture and Acoustics of New Opera Houses and Concert Halls; Art and the Power of Placement; Towards a New Museum*; and *Wallace K. Harrison, Architect*.

Anne Quito ("Street Level: Amant, Brooklyn") is a journalist and design critic who has written for *The Atlantic*, CNN, *Architectural Digest, Town and Country, Metropolis*, Design Observer, *Works That Work*, and A24. She is the inaugural recipient of the Steven Heller Prize for Cultural Commentary. ■

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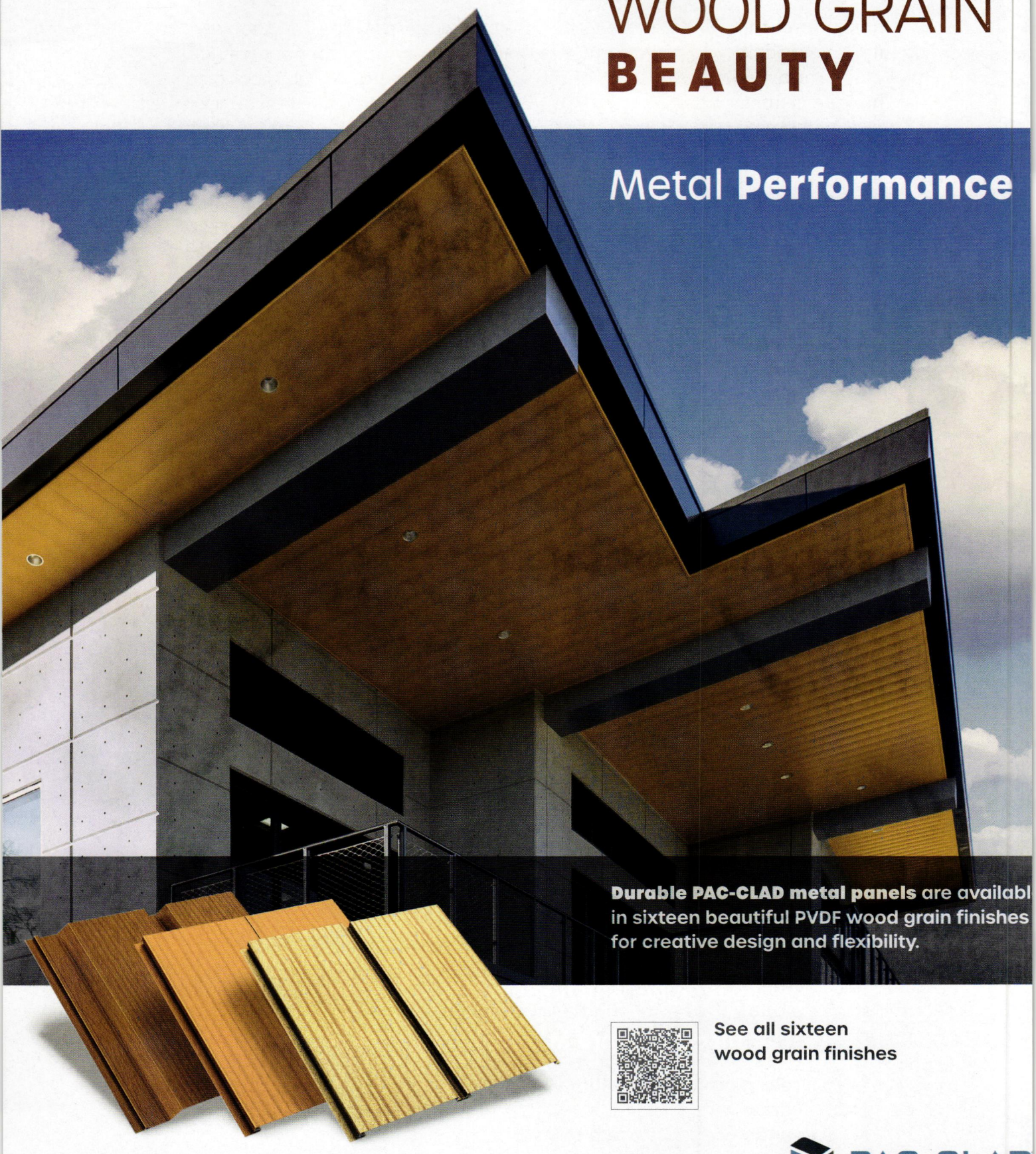

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LETTER FROM THE EDITOR

COMPLEX CONVERSATIONS

Photo credit: Nir Arieli

In a report published in December 2020, New York City Council Speaker Corey Johnson summarized New York City's planning issues as follows: "The city's piecemeal approach to planning and capital infrastructure spending significantly constrains its ability to reduce inequality, support equitable growth, or adapt to the projected impacts of climate change. Stakeholders on all sides are unhappy with our land-use processes, and the opposition to development—equitable or not—has grown more fervent than ever before."

The availability of affordable housing is an urgent and critical piece of city planning conversations. In this issue of *Oculus*, we consider what it means for housing to be "healthy" at all scales, from sustainable interiors to a vital part of a functioning urban ecosystem. What makes housing healthy at the urban level is a combination of many factors, among them, available space, financing, awareness of issues of race and gentrification, and access to basic services, including healthcare. In other words, creating truly healthy housing is a complex endeavor.

This complexity demands our attention because, like many topics in the current media environment, the conversation around housing is often oversimplified and reductive. For example, at a recent Brooklyn Community Board 1 vote on developer Two Trees's proposed River Ring project in Williamsburg, the board voted, "Yes, with conditions," as part of the Uniform Land Use Review Procedure process. The long list of conditions, including adding more affordable housing, would fundamentally change the project. The board wanted to send a message that it was not completely opposed to development, but that it had substantial concerns about the existing proposal. However, what was effectively a "Yes, *but*..." vote by the community was incorrectly reported in real estate news as an unequivocal thumbs-up. The win-lose mentality engendered by an anemic role of the Department of City Planning in development, as pointed out by Speaker Johnson, leads to missed opportunities for public engagement and a collective civic conversation.

In an attempt to peel back some of the complexity around affordable housing in New York, Contributors Alex Gorlin and Victoria Newhouse offer a primer on the subject, covering its history, financing, and design. Writer Bill Millard considers how commercial-to-residential conversions could generate more housing in New York in ways that are efficient and sustainable. Finally, we talk with some of the architects involved in the Vital Brooklyn Initiative, a historic, holistic effort to bring not only housing but a healthy quality of life to residents of Central Brooklyn.

In this issue we also introduce a new column, "Lit Review," for which we invite a subject expert to share their list of must-read books and articles on our issue theme. We're thrilled that architect and educator Karen Kubey has contributed her personal list on healthy housing. We salute and thank longtime contributor Stanley Stark, FAIA, LEED AP who is stepping down from his post of book reviewer.

Special thanks go to Brian Loughlin, AIA, APA, co-chair of the AIANY Housing Committee and a director at Magnusson Architecture and Planning, who became a critical collaborator on this issue. Brian not only contributed an op-ed, he spearheaded a feature on products for healthy interiors and moderated a conversation with some of the architects participating in Vital Brooklyn. Wrangling the wide-ranging editorial content and the images to illustrate it was our indefatigable and insightful Managing Editor Jennifer Krichels. Copy Editor Elena Serocki worked through an extra-large mountain of words, expertly polishing phrases to allow the author's ideas to shine through.

It was challenging to delimit this issue because, as Brian notes in his op-ed, healthy housing intersects with every aspect of people's lives. What we present here is selected coverage of a wonderfully rich theme, a complex and urgent conversation for New Yorkers that we plan to return to again and again.

Molly Heintz

Molly Heintz
Editor-in-Chief
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ON VIEW

The Rubin Museum of Art
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The Mandala Lab
Opened October 1

An alcove with rounded walls and acoustic panels where experiential and educational content can be deployed with a wide, drop-down projection screen.

Since winning the New Practices New York 2018 award, Brooklyn-based Peterson Rich Office (PRO) has remained busy with projects across the country, including the design of Davidson Art Gallery, Wesleyan University's first new art building in over 50 years, and of a new gallery and arts center in Detroit. In addition to cultural projects, the firm has put significant work into the public housing sector. Between 2019 and 2020, PRO worked with the Regional Plan Association (RPA) on a report of scalable solutions and design strategies to modernize NYC Housing Authority (NYCHA) buildings and campuses, and improve living conditions for residents as part of RPA's inaugural JM Kaplan Fund Chairs for Urban Design fellowship. The firm is currently advising on two NYCHA-owned properties that have yet to be publicly announced.

Most recently, led by founding architects Miriam Peterson and Nathan Rich, PRO designed the Rubin Museum of Art's newly opened Mandala Lab, an interactive space located on the remodeled third floor of the museum. The space is focused on sensorial experiences, featuring five activities based upon Buddhist principles of self-awareness and awareness of others. The lab's experiences were created in consultation with cognitive scientists, Buddhist teachers, and contemplative humanities researchers, and feature contributions from a diverse group of contemporary multidisciplinary artists. Installations include videos accompanied by scents, a site-specific commissioned sculpture that invites collective breathing, and curated percussion instruments dipped in water.

The design of the space is inspired by a particular Tibetan Buddhist mandala, the Sarvavid Vairochana Mandala. Tantric Buddhist practitioners use these geometric figures as a contemplative aid in visualization practices with the aim of transforming ordinary emotions into the more desirable qualities of enlightened beings. Like a mandala, the Mandala Lab is divided into four quadrants pointing to the cardinal directions, with a main circular chamber—the center of the mandala—represented by the Rubin Museum's central spiral staircase.

"The majority of the Rubin Museum galleries are designed for the display of artworks and objects," wrote Rich and Peterson in an announcement of the project. "This new space is designed for collective experience. The floor is deliberately more open and connected than the other five levels of the museum. Individual spaces are separated from one another by a translucent scrim, allowing for interactive experiences that are physically distinct but visually interconnected."

For its report on scalable solutions for NYCHA, Peterson Rich Office proposed replacing outdated and centralized building mechanicals, adding private outdoor spaces, diversifying the range of unit types, and better integrating existing buildings within neighborhoods. These changes would improve the health of individuals and families and enhance the performance, flexibility, and durability of the spaces they occupy.

The 2,700-square-foot open floor plan can adapt to various educational, exhibition, and event purposes. It will function as the home of school and family programs that connect younger generations to the teachings expressed in Himalayan art through social, emotional, and ethical learning (SEE Learning), developed in partnership with Emory University. ***JK***

Credits: Top: © Rafael Gamo; bottom: © Peterson Rich Office/Regional Plan Association/Rendering by Darc Studio

AT THE CENTER

ON VIEW

Center for Architecture
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AIANY Design Awards 2020-21
Through January 22, 2022

Photo credit: Jeffrey Totaro

The Newark Housing Authority | Training Recreation Education Center (TREC) by ikon.5 architects won 2021's Best in Competition award.

The "AIANY Design Awards 2020-21" features winning projects from two competition cycles, exhibited together for the first time. The exhibition is presenting 24 winning projects from 2021 and 35 winning projects from 2020.

AIA New York's annual Design Awards program recognizes outstanding architectural design by AIANY members and New York City-based architects and work in New York City by architects from around the world. The purpose of the awards program is to honor the architects, clients, and consultants who have achieved design excellence. Awards are given in five categories: Architecture, Interiors, Projects, Urban Design, and Sustainability. All categories were reviewed by a seven-person jury that establishes criteria, evaluates excellence, and determines the awards given for Best in Competition, Honor, Merit, and Citation. ***The Editors***

PROMISE IN PROFESSIONAL PRACTICE AWARD IN MEMORY OF VICTORIA ROSPOND, AIA (1961–2021)

When Victoria Rospond, AIA founder of New York-based CDR Studio and active AIANY Chapter member, died of cancer in August, her professional colleagues began to organize a memorial tribute that honored Victoria's unflagging support of young female practitioners. At CDR, Victoria was committed to creating an environment in which all team members, from interns to seasoned professionals, participated in project discussions and felt comfortable expressing ideas. She was a founding member of the AIANY Young Architects Group and highly engaged in the life of the Chapter. She also served as a founding board member of ArchiteXX, a non-profit organization that promotes gender equity in architecture and mentorship of women architects to be leaders in their profession.

The Promise in Professional Practice Award, sponsored by ArchiteXX, will go to a young female practitioner who is working in the spirit of Victoria to support inclusivity in the profession, expanding modes of practice and women in positions of leadership. Please look for an announcement and further information about this new honor in the coming months! ■

AT THE CENTER

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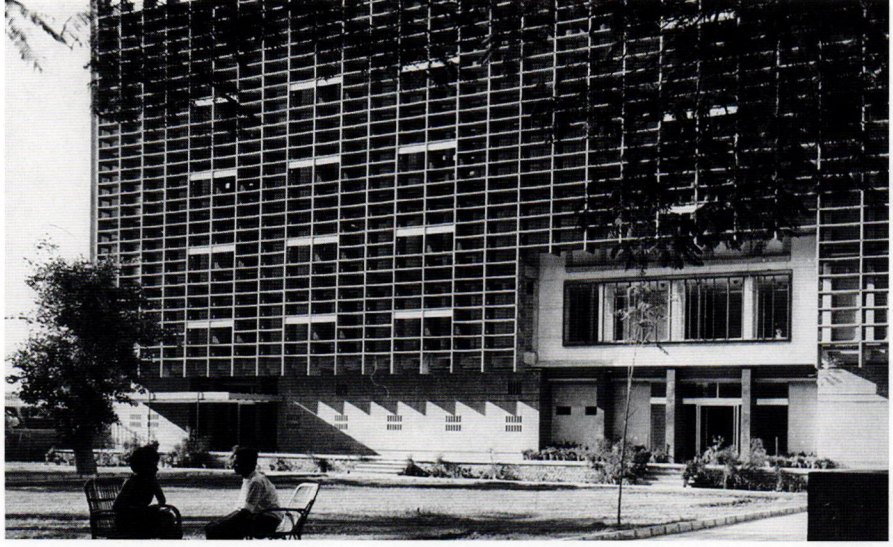
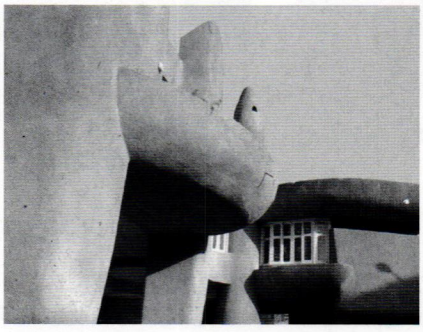
Cairo Modern
Through January 22, 2022



The AUC Science Building, by Medhat Hassan Shaheen, 1966.

Now on display at the Center after its postponement in March 2020, "Cairo Modern" showcases works by Egyptian modernists from the 1920s to the 1970s, encompassing half a century of rich architectural production and broadening our present understanding of global modernism. The exhibit is based on the book *Cairo Since 1900: An Architectural Guide* (The American University in Cairo Press, 2019), the first comprehensive survey of



Villa Badran by Gamal Bakry, 1971.

architecture in the Egyptian capital. It features 226 buildings in 17 geographic areas, built from 1900 to the present. Expanding on this scope, the exhibition introduces key architects from the period and presents examples of their works, which were commissioned by the state and the city's burgeoning bourgeoisie. Modernism in Cairo reflected the aspirations of the new classes that formed after Egypt's 1919 revolution, who embraced the modernist house or apartment as the materialization of new notions of class, identity, and modernity. ***JK***

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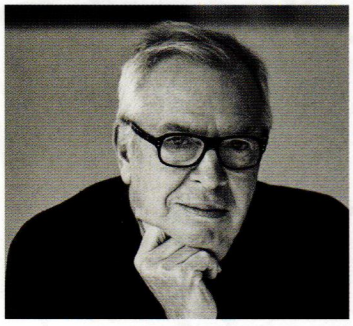

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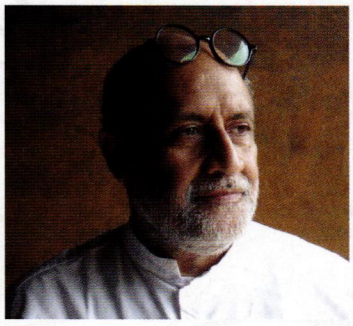

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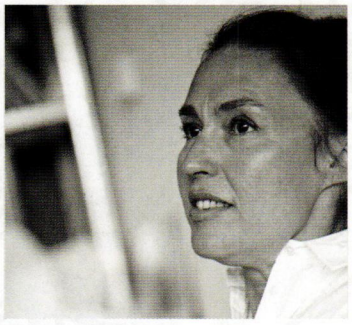

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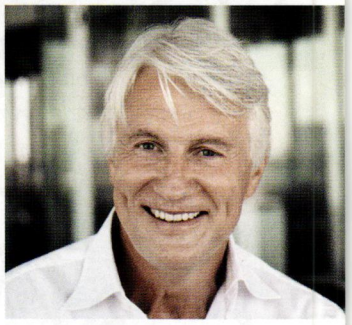

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AMANT, BROOKLYN

A Bushwick arts center design by SO–IL has become a new destination for architects.

BY ANNE QUITO

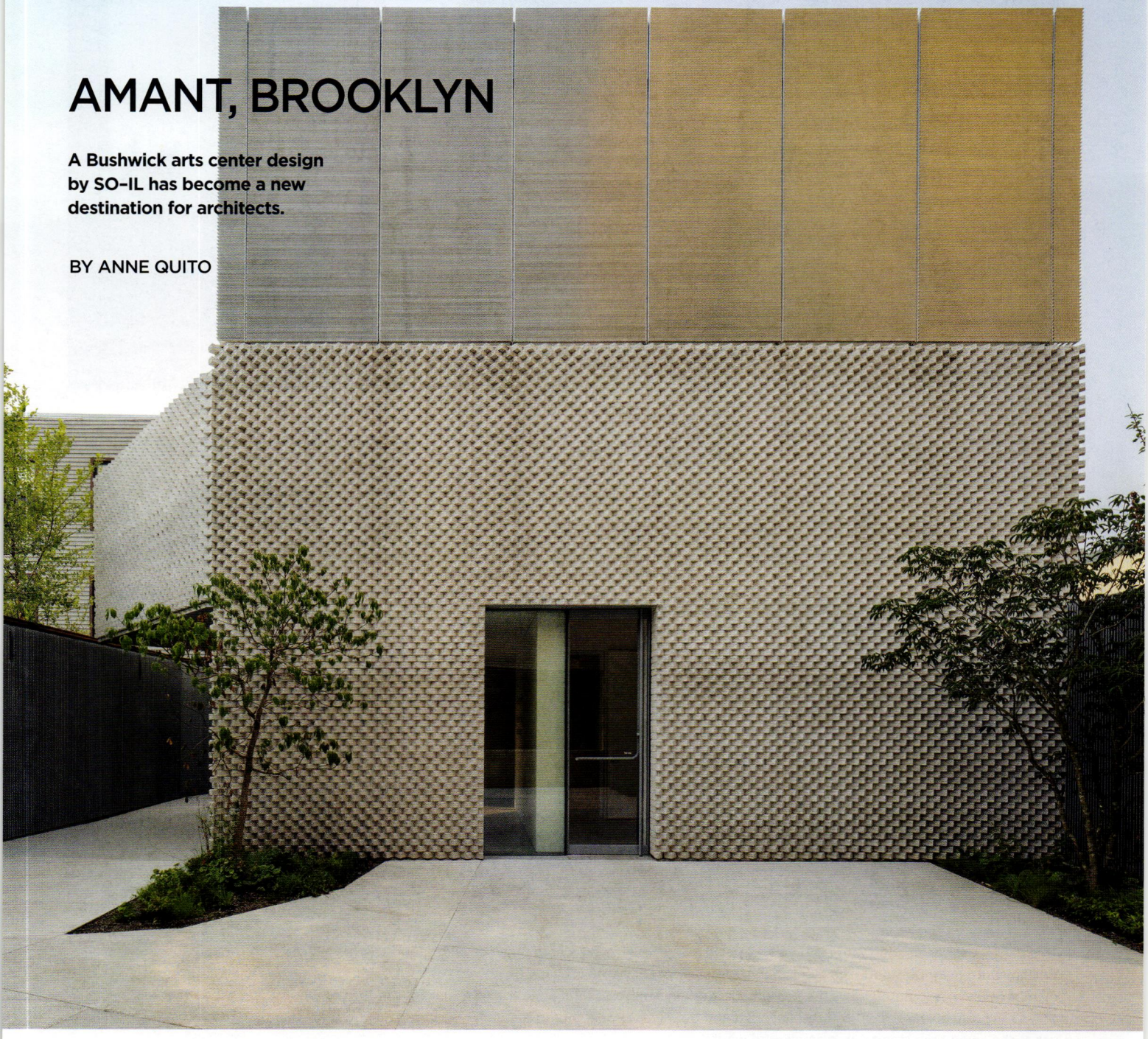


Photo credit: This page and following: ©Rafael Gamo

Smack in the middle of a gritty, industrial stretch Brooklyn's Bushwick neighborhood, Amant appears like a mirage. The new contemporary art campus opened this summer with relatively little fanfare, yet it's already become a local architectural shrine.

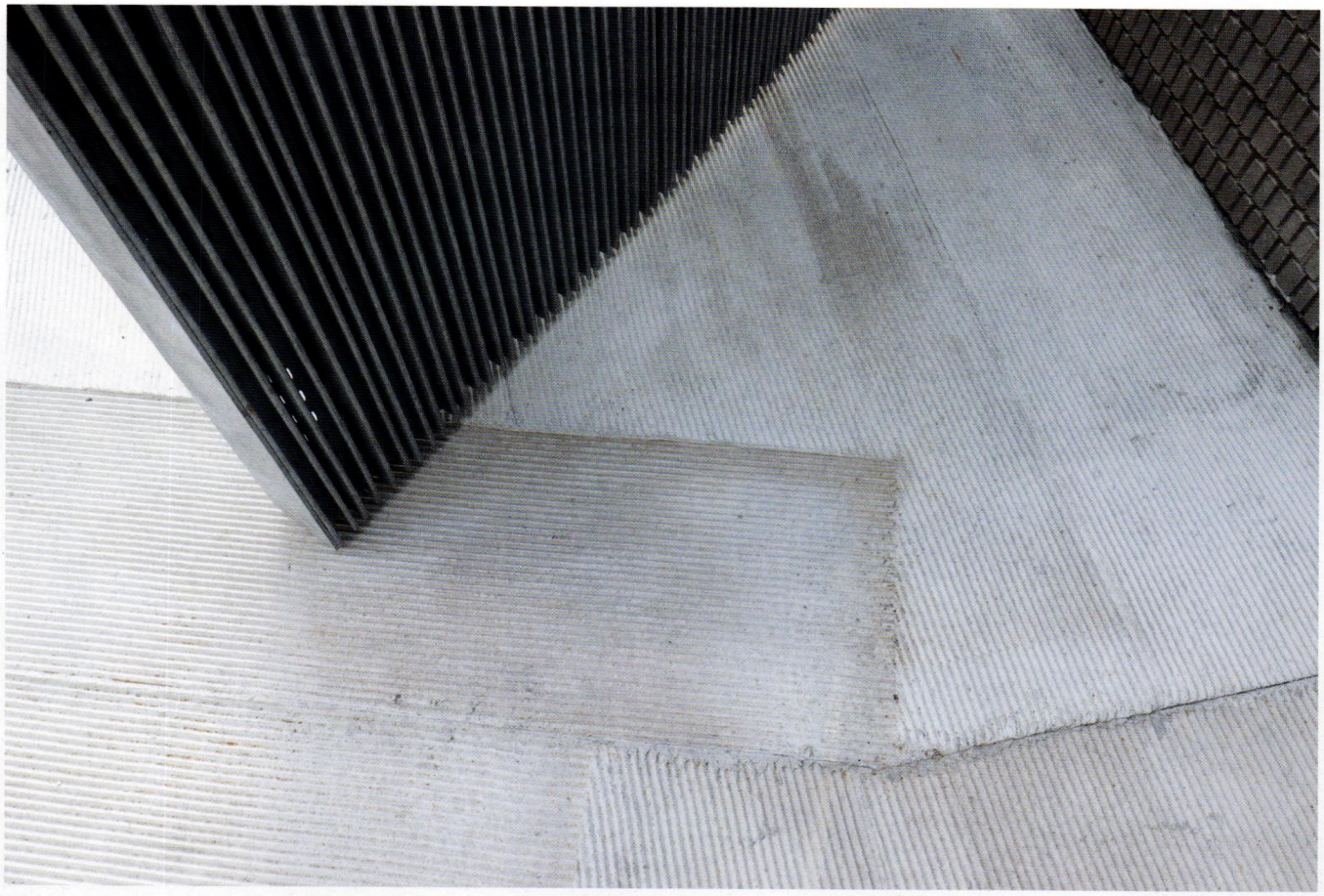
Founded by art collector Lonti Ebers, Amant is an art incubator that offers residencies in New York City and Siena, Italy. Its New York outpost, straddling Grand and Maujer streets, is a 21,000-square-foot, three-building complex that houses galleries, art studios, a bookstore-café, and a gem of a courtyard. Amant, whose name comes

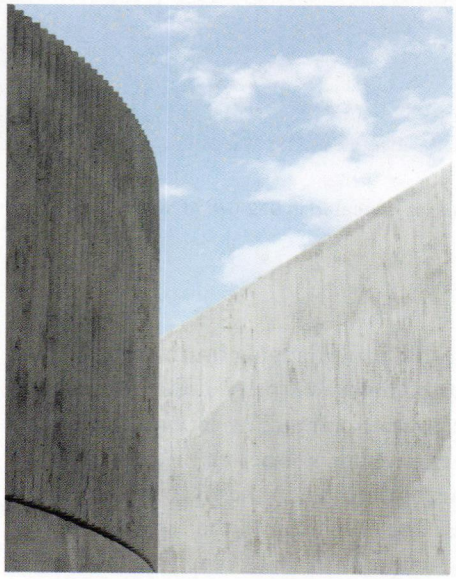
The Maujer Street gallery and Amant offices are enclosed in a single volume of white bricks set in a dog-tooth pattern. Above the masonry section, a band of aluminum louvers diffuses daylight into a 22-foot-tall gallery space.

This page: A series of courtyards and walkways weave between three campus structures, integrating art spaces with the surrounding East Williamsburg neighborhood. The Municipal Art Society of New York recently bestowed Amant with the "Best New Building" award. Jury member Calvin Tsao noted how "the project successfully infilled several plots to create linkages in the neighborhood's fabric that broke down the scale of the street" and the "inspired and poetic uses of standard materials like concrete and brick that blended within the context yet at the same time stand out in an alluring way."

from the Latin for "love" or "lover," aspires to be a free public space for community building and reflection.

Subtlety is Amant's animating force—so subtle that at times it's easy to miss the campus amid the busy Grand Street traffic. Without any loud or literal gestures, it rewards attentive visitors with a series of surprises that builds like a smile in the mind. "You can spot the architects because they're usually staring at the walls," says the bookshop attendant, nodding toward the architect-type snapping photos of the gallery façade's dog-tooth brickwork. Meanwhile, a couple is fondling the silver metal fence, seemingly mesmerized, and another visitor





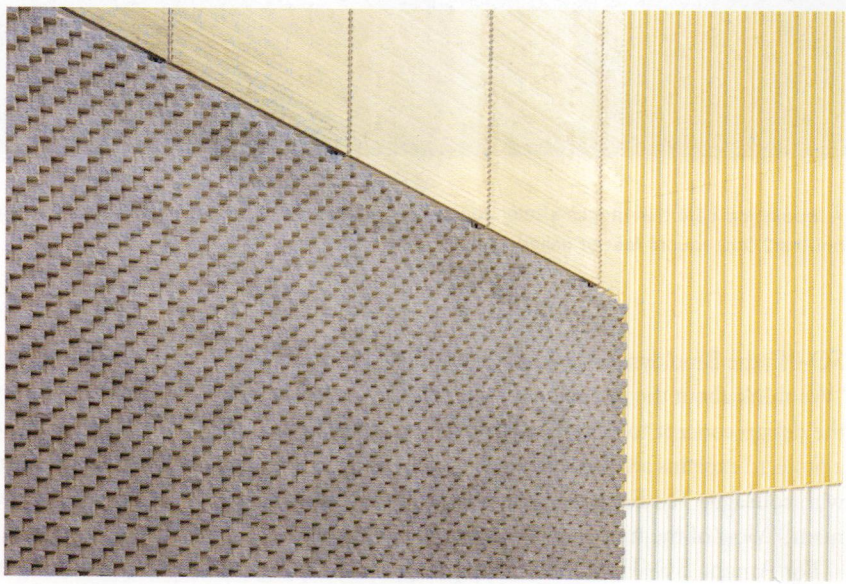


Photo credits, clockwise from top: ©Iwan Baan, ©Iwan Baan, ©Naho Kubota

is peering through the art residency building's whimsical potato-shaped window. One pilgrim is down on his knees, touching the poured concrete floor.

Indeed, the genius of Amant's architecture lies in the novel applications of building materials common to this part of the city, such as brick, metal, and cement. It's a signature of

Clockwise from top: A textured concrete path connects the campus' street front to a courtyard that opens onto a garden; its ridged appearance was created with a custom-milled rake and improvised brush patterns before the concrete set. Bricks give the appearance of continuous rotation around the building beneath uninterrupted exterior louvers. At 306 Maujer, two textured cast-in-plane concrete volumes enclose a 1,500-square-foot garden.

A bookshop-café that stocks a selection of art titles from indie publishing houses and small presses is located in 932 Grand, which also houses 2,000 square feet of gallery space.

SO–IL, the Brooklyn-based firm that designed the building. "We think about the tectonics or materials that would allow the design concept to be realized from the very early phases of a project," explains architect Kevin Lamyuktseung, who, along with colleague Ted Baab, oversaw Amant's five-year development. "Most of the time it comes down to the details."

For Amant, SO–IL labored over giving the box structures a tactile quality. "The texture was just as important as the volume," notes Lamyuktseung. "We used standard materials in ways that make you want to touch it. The closer you get, the more depth and texture you perceive." He is tickled to learn that people are actually touching the walls.

Making those crowd-pleasing concrete floors was essentially a collaborative performance art piece. Using a custom-milled rake, Lamyuktseung worked with the cement pourer to create the overlapping brush patterns, improvising in situ based on the viscosity of the material and the rhythm of the pouring and pulling action. They had to work fast—in 15-minute bursts—before the cement set. "It was challenging, but I think, in the end, the contractors enjoyed the process and the outcome, too," he says.

Another crowd favorite is Amant's courtyard. Muller Van Severen's candy-hued Alu seating offers a burst of vibrant color in the heart of the campus's cream-colored buildings; these are set against a canary-yellow wall that happens to be the side of the neighboring storage facility. "A lot of people ask if we designed that, too," Lamyuktseung says. "It was more of a happy coincidence."

Amant is open from Thursday to Sunday and free to the public. ■

Photo credit: ©Rafael Gamo

Architectural Record

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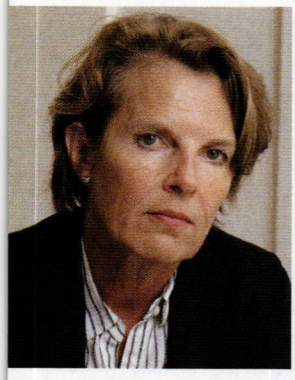
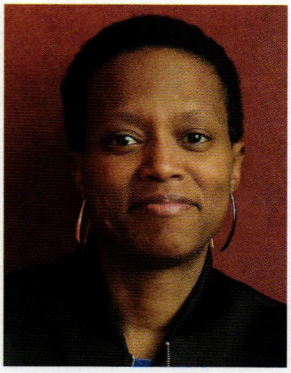
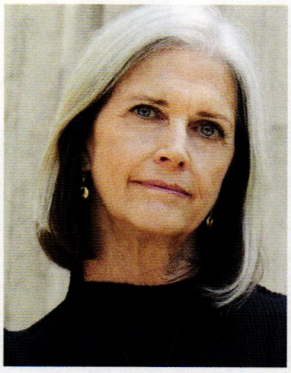


Design Leader:
Annabelle Selldorf
Founding Principal
Selldorf Architects



New Generation Leader:
Amanda Williams
Artist
Trained as an Architect

Innovator:
Julie Bargmann
Landscape Architect
& Founder
D.I.R.T. studio



Educator/Mentor:
Deborah Berke
Dean, the Yale
School of Architecture
& Founder
Deborah Berke Partners

Activist:
Tamarah Begay
Founder & CEO
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Image credit: courtesy of CetraRuddy/CAMBA Housing Ventures

HOW DO WE DEFINE HEALTHY HOUSING IN NYC?

CetraRuddy and a team including nonprofit housing developer CAMBA Housing Ventures will design a 291-unit affordable housing complex for Central Brooklyn as part of the Vital Brooklyn Initiative to bring $1.4 billion housing and service projects to the neighborhood. Pictured is a work-in-progress rendering.

Housing, a fundamental human need, is a perennial challenge in a growing city, where multiple interests compete for every square foot. This issue of *Oculus* is based on the premise that housing and health are intertwined at every scale, from creating livable, green neighborhoods to sourcing sustainable products for personal living spaces. Efforts to make housing available to New Yorkers at all income levels yielded mixed results, as described by Alexander Gorlin and Victoria Newhouse in their primer on the complex history, financing, and design guidelines of so-called affordable housing. Acknowledging the mistakes, inequities, and occasional success stories of housing in NYC, we look to the present and near future for viable solutions, whether in the conversion of commercial properties to those that support much-needed residential development in the city, or in the inclusion of products and strategies that can reduce our buildings' impact on the environment while improving occupant health and safety.

One of the most exciting residential initiatives to take place in the five boroughs, the state-led Vital Brooklyn plan, has earmarked $1.4 billion in funds to develop housing, healthcare, and community amenities in Central Brooklyn. The proposals by the design teams involved show an ambitious integration of new housing with the surrounding neighborhoods. "Our Brownsville site, The Rise, is located in a densely populated part of the city, but we worked to create a massing that felt more contextual and more connected to the pedestrian experience and the scale of the resident," says Brian Loughlin of Magnusson Architecture and Planning, one of the firms chosen to design supportive housing for Vital Brooklyn. "The success of this approach suggested to us that over the next couple of years we might see a search for a new density or a new way to see density based around a typology of access and circulation, as opposed to height and unit count," says Loughlin, who co-chairs the Housing Committee of the American Institute of Architecture's New York Chapter, and helped lead a discussion among some of the Vital Brooklyn teams for this issue. ***The Editors***

AFFORDABLE HOUSING IN NEW YORK: A PRIMER

For almost a century, New York City has tried to address an ongoing crisis of affordable housing. Lessons learned may inform new models with a more viable future.

BY ALEXANDER GORLIN, FAIA, AND VICTORIA NEWHOUSE

Facing page: Launched in 1983, the Nehemiah Program in Brownsville was the largest affordable housing development for first-time homebuyers in New York City. Co-author Alex Gorlin designed housing for the Spring Creek phase of the project in East Brooklyn, which was completed in 2017. Above: The Nehemiah development includes more than 800 two- to four-story prefabricated homes, which have been built on a 45-acre former landfill site in East Brooklyn.

Photo credit: Michael Moran

Emerging from the city's closure after the first year of COVID-19, New York now finds itself facing an ongoing and more severe problem: the lack of affordable housing. With unemployment at 10.6% and jobs having evaporated during the pandemic, there is an even greater need for low-income housing. The typical New Yorker is already rent burdened, spending 50% or more of his or her income on housing—far beyond the recommended 30%. Eight years ago, Mayor Bill de Blasio called for an end to the "tale of two cities" economic disparity, but according to a study by the digital news platform The City, there is now a 700:1 ratio of NYC Housing Lottery applicants to openings for low-income apartments in New York, with the Coalition for the Homeless reporting 51,000 people in shelters every night as of June 2021.

There is now a 700:1 ratio of NYC Housing Lottery applicants to openings for low-income apartments in New York.

While some with the economic means fled the infected city temporarily, low-income neighborhoods suffered the most, as the connection between housing and health became painfully apparent. Based on the 2020 *Unheard Third* report that tracks economic hardship in New York, COVID infection rates were highest in the Bronx, with 32% of low-income residents

Left: A historic image of the Harlem River Houses, one of the first federally financed public housing developments in the country. than 800 two- to four-story prefabricated homes that have been built on a 45-acre former landfill site in East Brooklyn. Below left: Originally known as the Ten Eyck Houses, the Williamsburg Houses, seen in a photo taken in 1941, were designed by Swiss architect William Lescaze and built between 1936 and 1938 in the Williamsburg neighborhood of Brooklyn.

reporting that they or a family member had tested positive for the virus. While the super-tall residential towers of "Billionaire Row" continued to rise on 57th Street, the COVID crisis underscored extreme inequality in housing, which disproportionately impacts people of color.

WHAT IS AFFORDABLE HOUSING?

Designating rent as affordable depends on the Housing and Urban Development (HUD) appraisal of Area Median Income (AMI), i.e., the midpoint of that area's income distribution. How a household's gross annual income earnings relate to the AMI determines the category of very low, low, middle, or upper income into which it fits. For example, in 2021, the AMI of the New York City region is $107,400 for a three-person family. Low income is 51% to 80% or below the AMI, meaning an income of $85,920 or less for a three-person family. In a building that is privately and publicly controlled or completely private, HUD would consider a two-bedroom apartment at $1,974 per month to be affordable housing for this family. The greatest need is for those in the 31% to 50% AMI bracket, which includes many of the essential healthcare workers during COVID; however, because low income is also defined as between 51% and 80% AMI, many in the very low income category have no housing at all available to them. This means of determining what is affordable differs from the way public housing controlled by a government agency such as the New York City Housing Authority (NYCHA) is allotted, which is based on simply 30% of income.

Affordable housing is built by either non-profit or for-profit developers. Non-profit developers sometimes build supportive housing, which is "affordable housing with on-site services that help formerly homeless, disabled tenants live in dignity in the community," as defined by the Supportive Housing Network of New York. Social services are usually included on the ground floor and can include social workers, job placement advisors, nurses, and psychologists. Amenity rooms such as gyms, computer rooms, laundry, and multipurpose spaces are also located in this area. This type of affordable housing serves populations with special needs, such as the formerly homeless (developed by non-profit Breaking Ground), survivors of domestic abuse (New Destiny Housing), HIV/AIDS patients, seniors (Affordable Independent Residences for Seniors), veterans, and LGBTQ Senior Housing (BFC Partners), to name a few. For-profit developers are represented by the New York State Association for Affordable Housing, a lobbying and educational group that promotes the construction and financing of affordable housing. For the purposes of this article, we are omitting an extensive discussion of public housing, namely NYCHA, which is a category that demands its own analysis.

Two historic types of affordable housing are Mitchell-Lama and Section 8. Mitchell-Lama, signed into New York State law in 1955, provides "affordable rental and cooperative housing to moderate-income and middle-income families," as defined by NYC HPD. Section 8 (also known as the Housing Choice Voucher program) is a federal program and part of the Housing and Community Development Act of 1974, which allows low- and moderate-income families to "rent housing on the private market...generally, families will pay no more than 40% of their AMI towards their rent share."

Above: Twin Parks's Northeast Housing section (1969-1974), designed by Richard Meier. Right: A present-day photograph of Twin Parks affordable housing in the Bronx, which has suffered from maintenance and security issues. Windows have been covered with green shutters to avoid more extensive repairs.

Homeownership was once a major segment of affordable housing; however, properties developed for ownership have become scarcely available, as rentals have dominated the market. The Nehemiah Program, organized in 1978 by local citizens, church groups, and the Metro Industrial Areas Foundation New York, has built more than 3,000 homes for sale in the South Bronx and East New York. This was part of several efforts in the early 1980s to replace multistory rental apartments with small freestanding houses for sale, which included Charlotte Gardens (1983–87) in the South Bronx. The Charlotte Gardens homes cost $80,000 to $110,000 to build, and sold for $47,000 to $59,000 with subsidies. In 1982, the price of a Nehemiah house was $50,000; it is now worth $500,000. Newly constructed houses cost between $197,000 and $420,000. Nehemiah homeowners are required to use the house as a primary residence for 15 years before they can sell it. An estimated $1 billion in wealth has been created for homeowners since the Nehemiah Program began. According to Kathryn Wylde, president and CEO of the Partnership for New York City, a not-for-profit that advocates with city and state governments on behalf of large businesses and their bottom line, "The drop in homeownership has been a mistake: rental housing is anti-development because the costs and taxes are higher for the owner/developer. Programs are needed that include partnership with local community development. Ownership implies upward mobility, which is not the case with rentals."

Homeownership was once a major segment of affordable housing; however, properties developed for ownership have become scarcely available, as rentals have dominated the market.

FINANCING AFFORDABILITY

What it costs to make housing affordable depends on the cost of construction, the tenant's relationship to the AMI, and what the tenant will pay for rent. The 30% cap of the renter's total income for rent in public housing was augmented in 2016 by the Affordable NY Housing Program, which offers three options for tax exemptions in an effort to restart the 421a tax break in New York State, given to developers building new multifamily residential buildings in NYC. These are among a series of tax reliefs that try to compensate for the moratorium on federal financing of affordable housing.

By far the most popular of these tax exemptions is the Low-Income Housing Tax Credit (LIHTC), created in 2000, which offers developers nonrefundable and transferable tax credits for the construction and rehabilitation of housing. The Tax Foundation's August 2020 report cited criticism of LIHTC for producing units that can be 20% more expensive per square foot to construct than average industry estimates. Other government subsidies include Section 8 vouchers, state housing trust funds, public land contributions, and the Federal Home Loan Bank Affordable Housing Program. Developers also rely on low-interest mortgages, low-interest bonds, bank loans, and private investment.

In lieu of a direct subsidy, the city might grant zoning "bonuses" if the developer includes community facilities such as multipurpose rooms and cultural facilities, like the Hip Hop Museum planned for a 542-unit project at Mott Haven in the South Bronx, and a high school for the 700-unit Sendero Verde project in Manhattan. Such facilities, as well as popular

How much does affordable housing in market-rate buildings cost the city?

Jon McMillan, director of planning and senior vice-president at developer TF Cornerstone, provided an analysis of how much subsidy is needed for one of his firm's market-rate projects with 20% affordable units, assuming relatively high construction costs for housing built on fairly costly land.

1. Housing cost per square foot
   Land: $250
   Construction: + $400
   Soft costs + $100
   = $750 per square foot

2. Typical two-bedroom
   950 square feet x $750 = $712,500 to construct

3. Debt service and equity cost on $712,500 @ 7%
   = $49,875 annual
   = $4,156 monthly

4. Operating expenses = $1,000

5. Total cost to carry apartment
   $4,156
   + $1,000
   = $5,156
6. $5,156 x 12 = $61,872 annual rent

7. At 30% of income, annual rent of $61,872 implies an income of $206,240.

Take the two-bedroom apartment in the hypothetical scenario above. In order to make it available at 40% AMI in 2021 New York City, the rent would need to be $800 per month. That is $4,356 less than the market rate ($5,156), or a $52,272 deferential per year. A cap rate is used to calculate the developer's loss over time in today's dollars. Using a 5% cap rate, the total loss on this one apartment is estimated to be $1,045,440 in today's dollars. The government helps the developer cover that loss through tax breaks or increased building area, which creates more market-rate apartments to cross-subsidize the affordable units. "This scenario is appealing to the city because affordable apartments can be produced with no actual cash outlay," says McMillan, noting that an additional benefit is social integration that mixes low- and middle-income units within market-rate buildings. "But it's expensive."

venues like the Caribbean Caton Market in Flatbush, Brooklyn, are increasingly included in projects that aim to create a multipurpose community rather than a strictly residential building. More typically, a less expensive project would cost about $400,000 to $450,00 per unit, for which there might be capital annual subsidies of around $350,000 per unit. Very low conventional debt (because there isn't much income) would pay for the rest.

Compared with market-rate housing, which is relatively simple to finance with a bank loan for construction, financing construction of affordable housing is so complex that a tax credit syndicator is often brought in to advise on different sources of investment as well as tax credits.

Non-profit developers, such as Phipps Houses (formed in 1905 before the U.S. tax codes), help finance affordable housing by accepting an unusually low 3.5% return on its equity investment. Adam Weinstein, president and CEO of Phipps Houses and its affiliates, and chairman of Phipps Neighborhoods, points out that his charitable organization "is doing what the private marketplace won't do."

Despite these incentives, notes Richard Kahan, a veteran of residential construction in Manhattan thanks to his role as chairman of Battery Park City, "When the Feds withdrew, developers called the shots." Adds Wylde, "State and city tax relief programs can never achieve the needed scale of subsidy without federal help."

DESIGN GUIDELINES

New York City set up the first public housing agency in the U.S. to build affordable housing paid for by the city government. NYCHA's first project, called the First Houses and completed in 1936 on the Lower East Side, was at five stories contextual in height, aligned with the street grid, and was open to the surrounding life of the city. Williamsburg Houses in Brooklyn, designed by the International Style Swiss architect William Lescaze and completed in 1938, continued this direction and included ground-floor shops and

Clockwise from top left: Melrose Court was the first mixed-income homeownership housing to be developed in the area of Melrose Commons in the South Bronx. The Melrose Commons plan included the revitalization of 200 square blocks with approximately 2,000 units of housing by architect Marvin H. Meltzer and Procida Organization. A community gathering is held at Baychester Houses in the Bronx, which were revitalized by a cohort of private developers working in partnership with NYCHA. Victory Plaza, designed by Aufgang Architects, is a nine-story, 136-unit development with 100% affordable housing for seniors in Central Harlem.

retail. From the 1940s through the '60s, Robert Moses built degraded versions of Le Corbusier's plan for Paris of towers in the park. Moses's rendition tore up the urban fabric with banal brick towers floating in a poorly planned landscape, leaving buildings disconnected from their neighborhood.

After a generation of mind-numbing repetition of these brick towers, the Urban Development Corporation in 1970 attempted to infuse new life into the Twin Parks public housing development in the Bronx by experimenting with young architects: James Polshek, Richard Meier, Passanella and Klein, and Prentice & Chan, Ohlhausen. In Brownsville, Brooklyn, Kenneth Frampton and IAUS were hired to design the Marcus Garvey Houses for high-density, low-rise perimeter blocks arranged around courtyards, according to the principles of architect and city planner Oscar Newman's "Defensible Space" ideas, which posits that crime can be mitigated through environmental design and creating a sense of ownership over space. Unfortunately, good intentions went awry, and the Twin Parks projects, specifically the Richard Meier and James Polshek buildings, suffered due to multiple issues, including lack of maintenance and changes during construction, and security issues caused by reliance on the European model of raised slabs on columns, which led to unsafe gathering places. Meanwhile, nearby Melrose Court, developed by Mario Procida, is organized around a secure internal garden and remains in good condition.

"State and city tax relief programs can never achieve the needed scale of subsidy without federal help."—Katherine Wylde, Partnership for New York City

After the Twin Parks blunders, affordable housing was basically a desert of design until the year 2000, when pioneering developers including Common Ground, Breaking Ground, Jonathan Rose Company, Phipps Houses, L+M Development Partners, New Destiny Housing, and David Burney at NYCHA—who instituted the Design Excellence program—reignited the emphasis on quality architecture. For example, Via Verde, designed by Dattner Architects and Grimshaw Architects in 2005, was an early proponent of green design, grow-

Photo credits: Clockwise from above left: Alexander Gorlin; L+M Development Partners; Camber Property Group

Above left: Built on the site of a former Bronx church, St. Augustine Terrace is a 112-unit mix of supportive and affordable housing. Above right: In partnership with client Urban Pathways, Monica Lopez Architect designed a 10-story supportive housing residence, including 55 apartments for formerly homeless adults living with mental illness and 31 units allotted for low-income residents, with priority given to veterans.

ing organic vegetables on the rooftop for residents' use. In the past few years, a number of excellent architects have focused their skills on affordable housing, including Curtis + Ginsberg, Monica Lopez Architect, Urban Architectural Initiatives, Magnusson Architecture and Planning, Cindy Harden of EQ_Architects, OCV Architects, CookFox, and Dattner Architects.

The design of affordable housing is dictated by many prescriptive standards. Strict budgets are set in advance by multiple financing sources, including Housing Preservation and Development (HPD), Homes and Community Renewal, Homeless Housing and Assistance Program, and the New York State Office of Mental Health. The limited budget defines structural, mechanical, and plumbing systems used. For example, the type of structural system is most often block and plank for multifamily mid- to high-rise buildings. This would seem surprising, considering the almost medieval nature of stacking blocks by hand and using a horizontal floor system of precast concrete planks, as opposed to steel frame or reinforced concrete. However, due to the high cost of construction in New York City, this is currently the least expensive building technique. This limits the possibilities of form, ruling our parametricism or biomorphism. Another casualty to a slim budget is an efficient mechanical system. Rather than a central cooling system such as a variant refrigerant flow system, which is far more efficient, individual window units are often installed in every room of each apartment. These units have a low initial cost but could require continual maintenance over their lifetimes, besides being less efficient in the winter.

The building program is often highly repetitive, with the exact same floor plan repeated on every level. All sizes of apartments, from studios to two bedrooms, are specified down to the square foot by HPD, so there is little room for reinvention of the program. Some HPD requirements make for odd planning, such as 350-square-foot studios with 11-foot-long kitchenettes. Certain amenities, namely outdoor terrace spaces, must be designed to prevent potential suicides. Nevertheless, creative architects have come up with solutions that push the limits of design within the restrictions given to them.

CURRENT CHALLENGES AND POSSIBLE SOLUTIONS

In the 1970s and '80s, city-owned vacant lots were plentiful due to foreclosures. No more: the shortage of sites is now a major hurdle. In addition, even in formerly undesirable areas such as the South Bronx, gentrification has caused the prices of existing sites to skyrocket. Thanks in part to the demand brought on by COVID and higher union and prevailing wage requirements, construction costs have also spiraled out of control—to more than $400 per square foot.

Designed by Urban Architectural Initiatives and sponsored by the NYS Office of Mental Health, Odyssey House in the Bronx consists of 65 studios and common spaces that support programs to aid in the recovery and development process for its tenants.

In the suburbs, the prohibition of multifamily development beyond a 10-minute walk of a train or subway station, typically about six square miles, leaves these areas drastically underserved by affordable housing. The social and economic equity that was initially hoped for in affordable projects has rarely been achieved. There is also resistance to change inherent in New York City's development community, which insists that design and environmental safeguards increase costs.

Once affordable housing is built, maintenance and security pose egregious hurdles. Repeatedly, buildings such as Twin Park Towers and Marvin Garvey Village, hailed upon completion as breakthrough solutions for affordable housing, have been compromised by both issues. Having financed construction, developers are unwilling or unable to pay for maintenance. Recently, the adoption of private management, notably by NYCHA for buildings it has renovated, is a potential solution.

John Tynan, head of Catholic Charities for four decades, recalled the conversion of underused convents and parishes in New York to affordable housing and senior residences in the late 1960s and early 1970s. This process could continue together with obsolete hospitals. Similarly, previously-shunned difficult terrains should now be utilized for construction, along with commercial real estate left vacant by COVID. Rosanne Haggerty's successful conversion of the Times Square Hotel (1994) was the first project of her pioneering Common Ground Community (founded in 1990, renamed Breaking Ground in 2011). Brenda Rosen, current president and CEO of Breaking Ground, asserts that converting hotels to affordable housing costs 60% less and takes half the time of converting other building types. Other non-profit social service organizations, like Metropolitan Industrial Areas Foundation (established in 1940), should be awarded a bigger role in giving a voice to affected communities.

More sensitive insertion of housing into Landmark Districts and carefully monitored upzoning that ensures little or no displacement would help, as would legalization of qualified basement apartments and secondary units in the yards of single-family neighborhoods. In 2016, Mandatory Inclusionary Housing in new developments was intended to assure permanent accessible housing, usually 25% of the total in an AMI of 60% ($47,000 average). However, it provides much less housing than would 100% capacity, and it doesn't benefit the lowest-income families.

In France, 2021 Pritzker Prize-winners Anne Lacaton and Jean-Philippe Vassal have demonstrated considerable savings in their renovations of 1960s housing: for example, a cost of $15 million compared to $26 million for new construction at Tour Bois le Prêtre in Paris (2011). While renovation is often more expensive than new construction in NYC, it is an option that merits study.

The social and economic equity that was initially hoped for in affordable projects has rarely been achieved.

Finally, Europe, and especially Sweden, has provided a model in the use of timber. Among the new range of engineered mass timber products, cross-laminated timber—boards of wood glued together in perpendicular stacks to create a thick block that is strong and fire retardant—is the most promising. When widespread use makes this material sustainable, well suited to prefabrication, and less expensive, it could supplement block/plank and concrete (given adjustment of NYC's code limitation to seven stories).

To achieve sufficient housing at affordable prices, technical ingenuity, more inventive financing, and openness to change are needed. Solutions will be elusive if old methods and regulations remain static. ■

Photo credits: Facing page, left: Courtesy of Magnusson Architecture and Planning; facing page, right: Peter Kubilus Architectural + Interior Photography; this page: Jimi Billingsley

FEATURE

HOME SWEET OFFICE: COMMERCIAL-TO-RESIDENTIAL CONVERSIONS

Can an oversupply of commercial buildings help relieve the chronic undersupply of affordable residential space in NYC? Architects who have solved this puzzle—on the high end—consider factors affecting the perennial mismatch of supply and demand.

BY BILL MILLARD

Although New York has not fully emerged from COVID-19 pandemic conditions as this article appears, the worldwide experiment in remote work has made it unlikely that every sector of the economy will return to business as usual. Some forms of work have always required physical presence, some don't require it at all, and some require it less rigorously than management may have previously assumed.

The vacancy rate for Manhattan office space peaked at 18.7% in July and remains at 18.6% as of August, according to two Newmark market reports, an all-time high since tracking began in the mid-1970s. Some areas like Lower Manhattan had vacancies as high as 21%. Meanwhile, the city's need for affordable housing remains acute. Observers can put two and two together: if underperforming commercial space, particularly in Class B and C buildings, became residential, would it make a dent in the housing shortage? And can public-sector decisions that structure market behavior be adjusted to expand incentives for such conversions?

Precedents for such transformations exist, both architecturally and in policy history. SoHo's evolution into a mixed-use neighborhood depended on the activism of the early-1960s Artists Tenants Association, two amendments of the state's Multiple Dwelling Law allowing artists to live in converted manufacturing spaces, and the passing of the 1982 Loft Law opening that model to broader populations. The Lower Manhattan Conversion Program (1995–2006), a.k.a. the 421-g Tax Incentive, offered real estate tax abatements and other motivators for commercial-to-residential conversions south of Murray Street, City Hall, and the Brooklyn Bridge, turning an after-hours ghost town to an upscale, 24-hour, multiuse community. In his 2022 budget, former Governor Andrew Cuomo included measures for adaptive reuse of commercial and hotel properties to create permanent affordable housing. Proposed measures would relax light and air requirements for Class B and C commercial spaces in Midtown (defined here as the area between Ninth and Park avenues from 14th to 60th streets), and for hotels through most of the city, for conversion to either supportive housing or at least 20% affordable housing over the coming five years.

In his 2022 budget, former Governor Andrew Cuomo included measures for adaptive reuse of commercial and hotel properties to create permanent affordable housing.

Architects with experience in commercial-to-residential adaptive-reuse projects have speculated about how such transformations have worked in the past and might work in the future. The purely architectural variables, these commentators observe, are more manageable than the variables of economics and policy.

Facing page: Designed by McKim, Mead & White as the original home of the New York Life Insurance Company, 108 Leonard's residential conversion by SLCE includes 167 condominiums and amenity spaces across 420,000 square feet. Above: The Crown Building at 730 Fifth Avenue, originally known as the Heckscher Building (Warren and Wetmore, 1921), is undergoing conversion to a hotel (floors 3 to 10) and luxury condominiums (11th floor to penthouse).

FEASIBLE, AT LEAST AT THE HIGH END

James Davidson, AIA, RIBA, partner at SLCE Architects, has worked on some of Downtown's highest-profile conversion projects. "Our firm has been doing conversions for the last 15 to 20 years," he says. Buildings dating from the 1880s to the 1930s, he notes, despite their beauty, history, and desirable features like operable sash windows, are suboptimal for today's office users. "The commercial office stock built in this period was not that successful because the lease spans, or depth from the exterior wall to the core, were shallower due to poor air-conditioning standards in those days." Starting with the U.S. Steel Building at 71 Broadway in 1998, SLCE began a series of conversions that included the tower of the Woolworth Building, 108 Leonard Street, and the Crown Building at 57th and Fifth,

still in progress. Tower segments are often commercially inefficient but well suited to residences, so that certain buildings contain residential units above commercial components. "All these conversions have been market-rate rental or 80/20 rental up to the highest end of the condominium market," he points out.

"Over time, the stock of readily convertible Class C office buildings to Class A residential has dwindled," Davidson continues, "so now we're looking at buildings built in the '40s, '50s, and '60s," which pose different challenges involving dimensions, mechanical systems, and requirements for light and air. Lease spans tailored to large offices can be up to 45 feet, while typical residential depths would be 30 to 35 feet. "What do you do with the additional 10 feet?" he asks. "We have an answer: a home office or foyer." Today's codes require operable windows for residential spaces, he adds, so the fixed windows of the sealed-building era need replacing. Office-building cores for elevators, stairs, and MEP are typically larger than residential cores, and apartments need fewer elevators: roughly half the volume-handling requirements of an office building, which needs one elevator for every 45,000 to 50,000 square feet. Extra depth on the inboard side of a corridor can become storage. New private bathrooms and kitchens require vertical ducting; "you're going to be adding a lot of little ducts within what had previously been an office space, and you go up through the building or find your way back to a central core," says Davidson.

18.7%
The vacancy rate for Manhattan office space

"I don't think the market is serving the needs yet to convert these office buildings to affordable housing."
—James Davidson

The differences in typology are not negligible, but they are soluble. The financial angle is another story. "Usually these leasing deals are predicated on floor area available," Davidson notes. "Even from an accounting point of view, when you look at Real Estate Board of New York (REBNY) standards, you take a 20,000-square-foot floorplate, and REBNY considers it 24,000. In the residential world, that 20,000 square feet is maybe something like 17,000, simply as a result of the REBNY methodology versus a standard net-to-gross methodology. A lot of accounting differences, marketing differences, and orientations cause people to have to recalibrate."

Each case calls for detailed individual study. "Every time we're asked to look at a conversion," Davidson says, "we analyze the building for its legal light and air, do preliminary layouts to see if they can be useful, do a net-to-gross analysis, and then we're good to go. So I don't see any architectural constraints other than what you'd find on an individual basis. I don't see that the architectural issue is as great as the deal issue."

To date, however, SLCE's conversions have been at the opposite end from the affordable sector. "Usually, the vehicles are not necessarily there from the public sector to allow a developer to be interested in a conversion from an unprofitable office building to an affordable building, a residential conversion," he says. "When we get these calls, it's usually for market rate, an 80/20 program, a 70/30 program, or a for-sale product. But I don't think the market is serving the needs yet to convert these office buildings to affordable housing." Davidson is on the board of Project Renewal, which works on both hotel conversions and ground-up construction of supportive housing for the underprivileged. Hotel-to-shelter conversions are easier, he notes, often involving little more than adding kitchenettes to hotel rooms.

With older buildings, loft-like ceiling heights are rarely affordable in residential contexts, Davidson notes, and sometimes not even in market-rate or condominium settings. Those built before the mid-1930s "create many opportunities architecturally because the superstructure and the floor-to-floor heights are already in place," he says. "The downside is there are always adventures when you open up existing walls to see what's behind them." Nevertheless, older buildings with open floorplates are usually readily convertible without the wrong kinds of surprises. "Every conversion we've done has been an architectural success, and often, but not always, a financial success."

CAN A THOUGHT EXPERIMENT INFORM REAL-WORLD PROJECTS?

Approached last winter by *New York* magazine's Justin Davidson (no relation) with a challenging idea, Architecture Research Office (ARO) principals Stephen Cassell, FAIA, Kim Yao, AIA, and Adam Yarinsky, FAIA, LEED AP, devised a plan to convert a 1950s-era office building at 260 Madison—officially Class A, but dated and drab—into a mixed-use building with green terraces and roof, structural mass timber, Passivhaus-style energy-recovery

Right: Architecture Research Office's choice for a proof-of-concept commercial-to-residential conversion project, 260 Madison Avenue (Sylvan Bien, 1952). Below: ARO's "after" image of 260 Madison, showing new terraces and reconfigured volumes.

ventilation, and contemporary amenities. The project, written up by Davidson on the website Curbed, is a hypothetical exercise, though the proposal was vetted and found to be financially feasible.

ARO's experiment would require substantial zoning and code changes, and major reconfigurations of building volumes. Skeptics say the project is unlikely to transcend the theoretical level. "We would be lying," Cassell comments, to claim "it was a rigorous, deep thing, but transformation often happens through ideas put out to stimulate discussion. Enough forces seem to be aligned to start to take seriously the conversion of some of these Class B and C buildings." Given the need for affordable housing, a potential synergy between the effort to modify the Multiple Dwelling Laws and foreseeable changes in zoning could transform market conditions. Yarinsky adds, "There are emerging housing typologies that are not prevalent in New York City, such as co-housing, that might change the calculus. These things may seem infeasible based on what we know now, but conditions could change. There's certainly a heavy demand; it's just a question of cost."

COVID has changed the office-space market enough that it's impossible to make predictions about post-pandemic conditions, the ARO team finds. "If there is a contraction," Cassell says, "I think there'll be a lot more appetite for projects like these. If there isn't, it'll be business as usual." Yarinsky points out that high-earning properties are not the candidates for conversion. "It's not just about taking something that's completely viable as it stands and saying, 'Let's make it something else.' It's basically that we can't do anything with it, so maybe that makes it more attractive to invest the money in changing its use."

Class B properties have earned that designation, Cassell notes, because of features like low floor-to-floor heights with extensive ceiling ductwork. In residential conversions, "you can run the ducts in the secondary spaces of kitchens and bathrooms, so it allows a higher ceiling height and more light penetration. You're looking at two different strategies, and probably in combination: either carving away parts of the building in key areas, and finding programs that don't need that light to take up some of the depth of the floorplate from the inside." The building on Madison was suitable for a hybrid program, he says, with "one-third offices, two-thirds residential," allowing "an ecosystem of co-working spaces

Image credits: Photograph courtesy of Google Earth/ARO; rendering courtesy of ARO

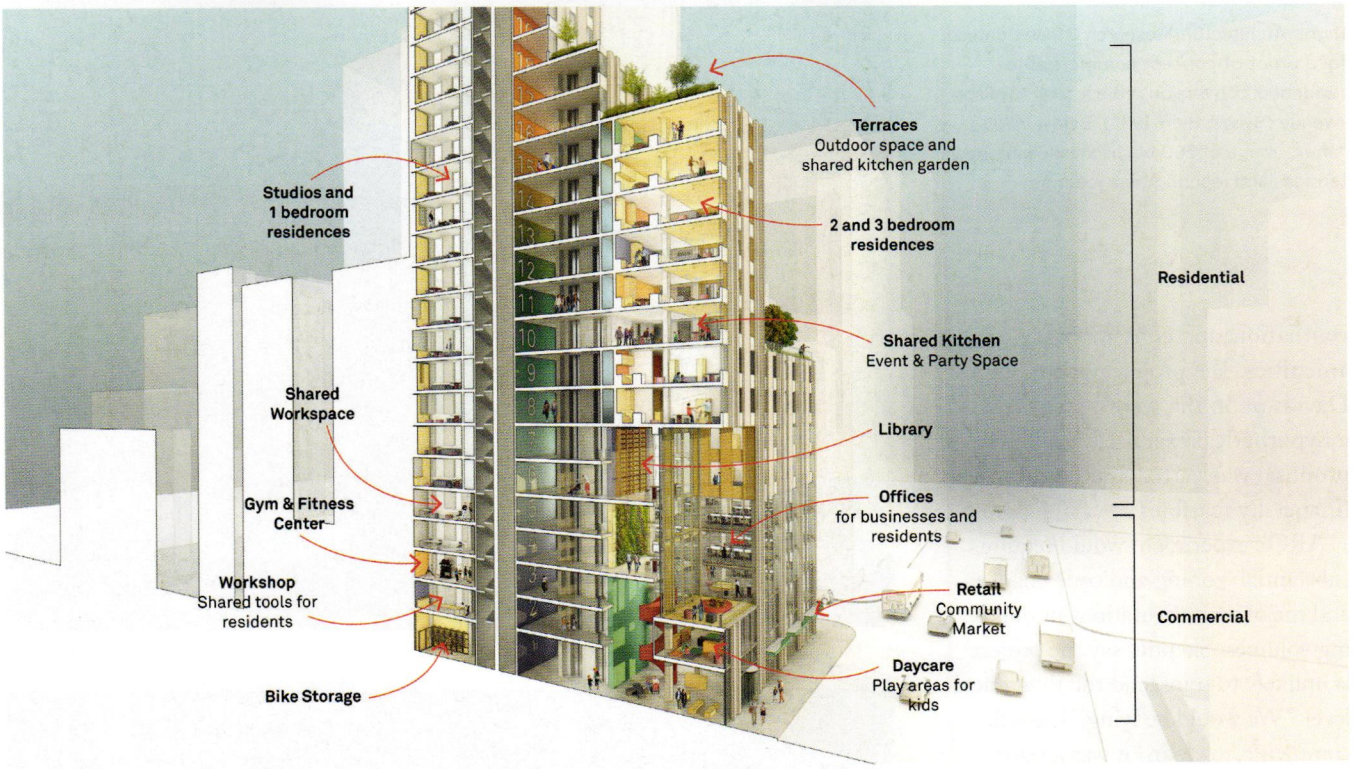
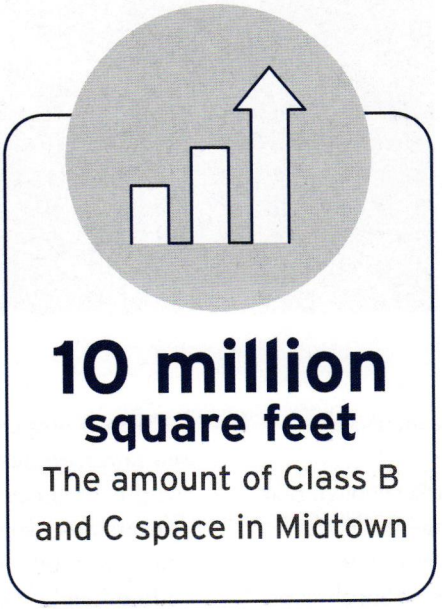


Image credit: Courtesy of ARO

A conceptual rendering in section showing features and new amenities for the upper residential and lower commercial segments of the transformed mixed-use 260 Madison.

and live-work, almost traditional buildings. We joked while working on that project that maybe we'd just give New Yorkers the deepest closet in the world. What everyone loves is storage space."

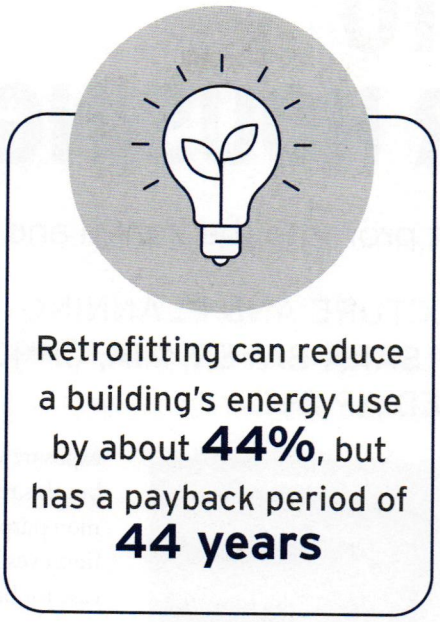
COVID-related redesigns, the ARO team points out, occur in a complex environmental, financial, and operational context. With Local Law 97 requiring drastic cuts in buildings' carbon emissions by 2030, Cassell says, older buildings need substantial investment over the coming decade. He cites Terrapin Bright Green's 2013 report *Midcentury (Un)Modern* as a guide to potential benefits and costs from maintenance, retrofitting, or replacement of Manhattan's 1958–1975 office building stock. Deep retrofitting could reduce a building's energy use by about 44%, but would have a payback period of 44 years, rendering such a project financially improbable. Businesses seeking to downsize have different needs: accounting firms, Cassell observes, can go digital and remote more easily than law firms or law-oriented non-profits because of paper-storage requirements.



Residential conversion is not a one-size-fits-all solution, yet the sheer scale of Manhattan's commercial space—some 10 million square feet of Class B and C space in the Midtown district—implies that even partial conversions can have dramatic effects. Considering the convergence of workplace realignments, the housing crisis, climate change, and concerns of livability and walkability, "even a certain percentage transformation will transform your idea of what the city is in a pretty radical way," Cassell says. "Capital markets don't fund projects like this if there's risk involved, so I'd say it's not going to happen through one magic bullet," but through subtle changes in the Multiple Dwelling Law, zoning, as-of-right use, and the "big stick" of Local Law 97. "When you have enough different interest groups," he concludes, "and if circumstances allow those interests to align, things change."

PART OF THE PROBLEM OR PART OF THE SOLUTION

Much of today's unhoused population once had an alternative to grim shelters and the great outdoors: single-room-occupancy (SRO) units, which city policies for decades tried to phase out as substandard. "Before the 1970s, the word 'homeless' had not been invented yet," notes Ted Houghton, president of Gateway Housing and former executive deputy commissioner of New York State Homes and Community Renewal. Lacking private bathrooms, safe fire exits, and other features, SROs were considered a blight; from the mid-1950s through the 1980s, regulators banned new SRO construction, discouraged them through zoning, and incentivized their conversion to higher-rent apartments. Now, with the loss of over 100,000 SRO rooms correlating with rising homelessness, Houghton and other housing specialists look to better designed, code-compliant, and better maintained options as a potential source of relief.



Hotel conversion, he suggests, offers a logical way to reinvent the SRO model without extensive new construction. Existing rooms with private baths but shared kitchens down the hall would be a viable form of 21st-century SRO. "Anybody would rather have their own hotel room than a shelter bed in a dormitory," he says. "The perfect is the enemy of the good," however, when it comes to code details and conversion costs, since hotel and residential codes differ in dimensions, fire safety, and ADA accessibility or adaptability. Hotels in good condition could provide housing, "but the rooms are 10 square feet too small, the doors are two inches too narrow, and the elevator is not quite big enough. So instead of doing a quick conversion, turning all those hotel rooms into micro-units, you're doing a gut rehab, and it becomes a much more expensive and lengthy process."

A policy aiming to relieve the housing shortage might ironically end up gentrifying the city's commercial environment as earlier initiatives gentrified its residential.

With COVID curtailing business travel and tourism, the hospitality sector is currently distressed, riddled with foreclosures and planned demolitions. Policy measures such as State Senator Brian Kavanagh's S. 4937, Houghton says, could provide an economical shortcut to residential use by allowing hotels to provide permanent affordable housing while retaining their hotel zoning status, code compliance, and certificates of occupancy. Kavanagh's bill did not pass the last state legislative session but is likely to be reintroduced in the next. Much depends on whether the tourism industry rebounds, Houghton notes, and on the priorities of the next governor and mayor. If hotels currently up for sale return to profitable operation, interest in their conversion will dwindle, and the focus will largely be on office conversions.

The current City Hall, Houghton adds, has resisted "state override of local control of zoning, so there was opposition to it, and I think correctly so." REBNY's interests—expanding both market-rate units and 80/20s, which bring over $600,000 in tax benefits per unit—align with Cuomo's proposal, he observes, while summarizing the de Blasio Administration's position as "it would be foolish for us to cannibalize our office stock to turn it to housing; as much as we need housing, we also need jobs, and jobs in New York are office jobs." Another bill, the Housing Our Neighbors with Dignity Act, counters Cuomo's proposal with funding for the state to purchase distressed hotels and other commercial properties for permanent conversion, to be owned and managed by non-profits, with at least 50% of units reserved for the unhoused. It has passed both state legislative houses and, at this writing, awaits the signature of Cuomo's successor.

If any of the proposed conversion incentives do for Midtown what 421-g did for Downtown, they may have unintended effects, Houghton cautions. Class B or C space is an important part of the city's professional ecosystem, serving organizations outside the Class A market, particularly non-profits and startups. Part of the rationale for upscaling Downtown was that Midtown still offered those outmoded but important spaces; if they disappear as well, modest organizations might have to flee. A policy aiming to relieve the housing shortage might ironically end up gentrifying the city's commercial environment as earlier initiatives gentrified its residential.

Mies van der Rohe's maxim "God is in the details" can apply to public measures and private interests as well as to buildings. Scholars doubt he ever said the devil resides there as well, but officials struggling to align intentions with consequences are well advised to consider the many places the sulfurous fellow can hide. ■

FEATURE

SIX WAYS TO HEALTHIER HOUSING

Materials and systems that promote the health and wellness of residents

BY MAGNUSSON ARCHITECTURE AND PLANNING
WITH CONTRIBUTIONS BY SARA BAYER, AIA, CPHC, LEED AP AND JACKIE STINSON, AIA, LEED AP B+C

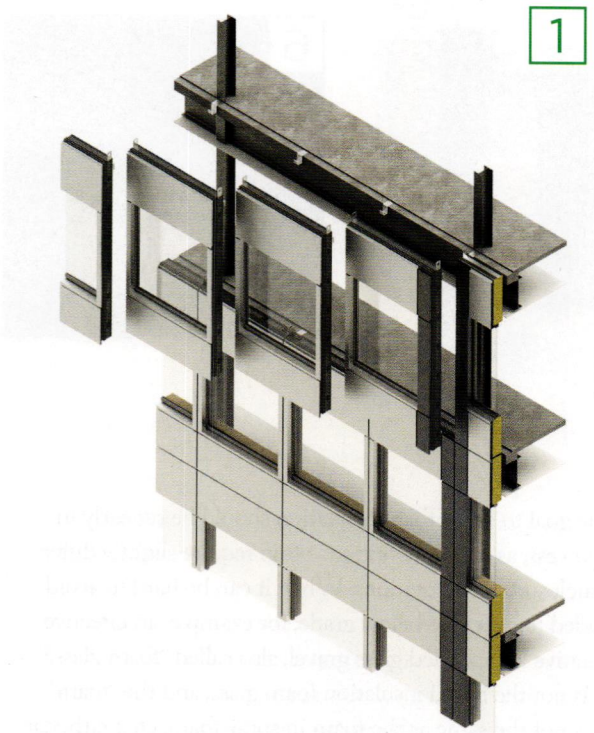
Designing healthier housing is among the most challenging and critically important work that architects do. There is a growing need to mitigate pathogens. With increasingly alarming data on the detrimental effects of many chemicals found in nearly everything we use, the emerging field of green chemistry and new building technologies offer opportunities to better address how the home environment impacts the health of occupants.

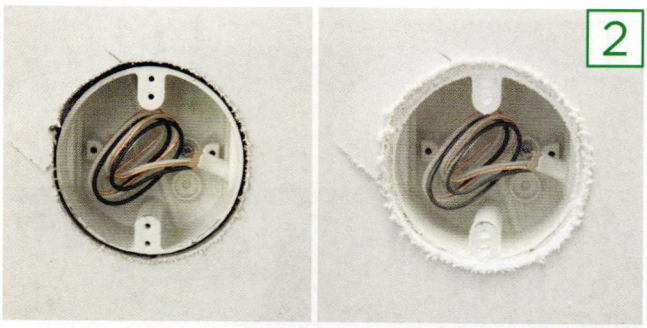
Like many firms, Magnusson Architecture and Planning (MAP) is considering all of this alongside other design approaches to health, such as biophilic, active, and trauma-informed design. We also view design in the larger context of resiliency and sustainability, including both reductions in operational and embodied carbon. While many of the strategies overlap, a closer look at materials and building systems can sometimes reveal competing objectives. At MAP, we've developed a six-point framework for balancing priorities to eliminate exposure to toxicants where possible and to manage exposure where necessary. Every building is different, but this resident-centered approach bolsters the common purpose of our clients and their communities, improves buy-in on design decisions, and builds the case for broader project support.

1 PROVIDE ACTUAL FRESH AIR

Current code anticipates that apartments will acquire some of their fresh-air allowance from leaky envelope construction. In a multifamily building with typical "exhaust-only" ventilation, negative pressure is created inside units, and about a third of the makeup air is sucked in through walls and under doors. In other words, fresh air comes through exterior walls and from shared spaces with neighbors, such as the corridor. Most measured as-built conditions of an exhaust-only building do not even result in the desired air changes. Not only is this an unsanitary way to replenish oxygen and remove particulates, germs, and toxicants from off-gassing materials or excess moisture, but a leaky building is also bad for asset durability and, of course, energy savings. Through RetrofitNY, NYSERDA is encouraging our industry to retrofit existing buildings to create healthier and efficient levels of airtightness. For example, [1] **Dextall** is an approved component manufacturer by NYSERDA for exterior cladding and is involved in the NYC Housing Authority's deep energy retrofit.

An airtight structure is essential for energy efficiency, but once the building is airtight, ideally tested, and built to a Passive House standard, we need to ventilate deliberately with dedicated return and supply to ensure air changes. The best way to do this is with an energy recovery ventilator (ERV) unit, so we can capture the energy spent on space conditioning. This also allows us to filter the incoming fresh air, with a recommended minimum level of MERV 13 filter to further reducing toxin load. A "core" or plate heat exchanger-type





Facing page: At the Crotona Senior Housing residences in the Bronx, designed by Magnusson Architecture and Planning for LGBTQ seniors, finishes include low VOC resilient flooring, an electric stove, and solid-surface countertops, all chosen to reduce occupants' exposure to environmental toxins.

ERV is a good option, as these have minimal risks for air transfer between streams inside the machine.

2 REDUCE "SHARED AIR"

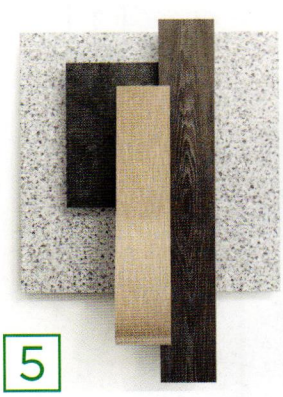
Unit compartmentalization provides numerous benefits for healthy interiors, energy efficiency, and resident well-being, including improvements in odor, noise, and pest control and, critically, air quality. Apartment compartmentalization supports the true functionality of an ERV ventilation system and dramatically reduces pressures on the building through stack effect, which minimizes the transfer of air between apartments. This, in turn, can limit the transfer of pathogens.

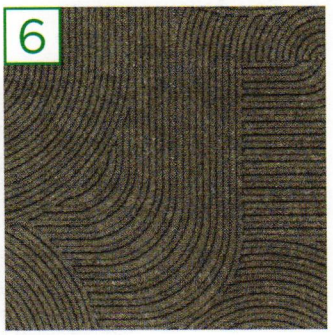
Apartment compartmentalization is required in affordable housing by certification with Enterprise Green Communities (EGC). Blower door tests of individual apartments are conducted to ensure they are airtight, meeting a maximum of 0.30 CFM50 per square foot apartment enclosure area. Building code requirements for Sound Transmission Class (STC) and fire ratings of tenant partitions, to seal walls and penetrations, result in nearly this level of airtightness already, as long as details to achieve these are diligently and fully implemented in the field. Therefore, those projects not required to participate in EGC can achieve this compartmentalization without adding scope—only an enhanced level of quality control is required. Blower door testing of a sample selection of units is a good idea, however, if you are working with an unfamiliar general contractor. For retrofit projects, this kind of air sealing at tenant partitions may be more difficult. One product solution here is [2] **AeroBarrier**, which can be applied in a new construction or retrofit, after the unit has been pressurized. The product seeks and seals gaps as large as half an inch and as fine as a human hair.

3 GO ALL-ELECTRIC

While the push for all-electric buildings is often understood as a carbon reduction strategy, it also has significant implications for health. The burning of fossil fuels releases high quantities of particulate matter and other toxicants. Eliminating on-site combustion includes doing away with gas stoves, which emit nitrogen dioxide, carbon monoxide, and formaldehyde, each of which can exacerbate respiratory and cardiovascular ailments.

Electric resistance stoves are a common substitution, but induction stoves that require ferrous or magnetic cookware (most cookware is induction-ready) are an exciting alternative. They are more efficient, and most culinary artists agree they are great to cook with. Not only do electric and induction stoves release significantly less waste heat, keeping kitchens cooler, but induction stoves also work more efficiently, boiling 1.5 gallons of water in two instead of eight minutes for a gas stove.





Renowned chef and electric kitchens expert Chris Galarza not only advocates for induction cooking technology, but actually operated an all-electric kitchen for nearly six years before opening his own culinary consulting company, Forward Dining Solutions LLC. "Induction cooking technology is the future of cooking," says Galarza. "It's something that gave my team and me the edge to get more food out in less time. It allowed us to work faster to satisfy the needs of our guests, while staying cool and comfortable doing it. In our line of business, speed is king, and on a gas range we can cook nearly 39 pounds of food per hour. On induction, we can cook 70-plus pounds per hour."

Moving away from fossil fuel-based systems also means specifying heat pump electric space conditioning systems. Heat pumps are always more efficient than combustion equipment because they do not generate heat—they move it around. Using these systems also provides an enormous resiliency benefit due to their ability to provide cooling as well as heating. This will be critical in NYC, as our climate and envelope energy-efficiency strategies are moving us to cooling-dominated interiors. That said, manufacturers have also solved cold-climate concerns, and they can now operate at much lower temperatures.

4 REMOVE FOSSIL FUEL-DERIVED MATERIALS

Avoiding fossil fuels is not just about on-site emissions: the concern extends to material composition. Therefore it's important to eschew fossil fuel-based plastic insulation products, such as rigid foam boards and spray foam, as these are almost always required to contain chemicals such as flame retardants, which are bio-accumulative (meaning they don't decompose, but rather build up in the food chain). These products may pass an NFPA 285 test, but they do so with these chemicals, and can still burn. Since plastic foam insulation is usually higher in global warming potential and perpetuates the use of fossil fuel-based products, phasing it out would contribute to overall planet health. We are still on the lookout for a 100% recycled content—zero chemical plastic insulation product that is straightforward to recycle at the end of its use.

The goal to avoid foam insulation should be set early in the process, as healthier options often require slightly different enclosure configurations. While it can be hard to avoid extruded polystyrene below grade, for example, an effective alternative is expanded glass gravel, also called "foam glass." This is not the board insulation foam glass, and the "foam" here is not the same as the foam in spray foam, etc.; rather, it is a gravel product that has insulative value. This is especially useful in projects with lower water tables, where we can replace both rigid boards and the gravel layer below slabs. It can even be used where a Sub Slab Depressurization System (SSDS) is required. Two manufacturers/products in our area are **3 Aero Aggregates** and Glavel. Large quantities of insulation are required to meet our near Net Zero operational goals, so careful review of insulation choice is a high-impact item.

5 ALIGN HAZARD WITH RISK WHEN SPECIFYING MATERIALS

When collaborating with clients and residents on interior material design, it is important to focus on high-touch, high-exposure locations. Often there are no perfect material choices, and therefore we lead with known health hazards, prioritize by identifying the health risks, and eliminate the chemicals that exacerbate these concerns.

It is not only important to specify materials that do not contain toxic chemicals, but to think about how they are installed, and whether coatings are necessary. For example, natural wood may require a toxic resinous coating, and countertops may require per-fluorinated chemical sealants. Instead, products that often meet more stringent health criteria are Plyboo bamboo flooring and **4 Caesarstone Quartz Classic Collection countertops**.

If a product suits a project's needs but contains a harmful chemical, talk with manufacturers to improve it. Sometimes, though, a material substitution is still required. For example, linoleum is a healthier material than luxury vinyl tile (LVT) and might be preferable, however, it does not always meet the durability or cleanability standards required for certain

"By specifying healthier products, designers and architects advocate for healthier material production, healthier environments, and healthier lives for low-income communities living in affordable housing."—Jonsara Ruth, Design Director, Healthy Materials Lab, The New School

projects. Two products new to the market that are Red-List Free and meet our cleanability and durability requirements are **[5] Pivot Point by Mohawk Group** and **[6] Interfaces's carbon-neutral, Green Star-compliant LVT**.

Another key strategy for removing toxicants is to simplify the material palette. This helps to focus research efforts on selections that will be most impactful to the project. We need to consider not only the people who occupy the new spaces, but those in fence-line communities where our building materials come from. Often, our efforts to limit exposure to toxic chemicals when a building is in use can likewise limit exposure for those who live in the places where materials are extracted and products are manufactured. This is not always the case, however, so every decision needs to consider the full life cycle of a product, including its production, durability, cleanability, recyclability, and more. The amount of investigation necessary can be extensive, but many resources and organizations are available to assist designers in making better choices. Maintaining an office library with healthy products prioritized is also extremely valuable.

6 CONSIDER GREEN CHEMISTRY AND ENLIST EXPERT HELP

With better data from the last few decades concerning the long-term health effects of the chemicals we use in modern society, the relatively young field of green chemistry aims to "maximize efficiency and minimize hazardous effects on human health and the environment." This work is essential because our regulatory infrastructure and approach to product development are not set up to protect us yet. Rather, our system facilitates the use of products that do not contain a handful of chemicals known to be toxic, and allows new chemicals to be utilized with limited testing requirements. In other words, the products are innocent until proven guilty, instead of tested until known to be safe. Of the more than 85,000 chemicals currently in use, the Environmental Protection Agency has regulated only eight.

Only more recently has the makeup of products and their potentially hazardous ingredients even been disclosed. The move for transparency is gaining urgency in our industry as we become more aware of what we are dealing with. While web sites and studies can help identify hazards, it is up to designers and their consultants to weigh exposure risks and compare products. Key to this process is using Health Product Declarations (HPDs) and Environmental Product Declarations (EPDs). Managed by the non-profit HPD Collaborative, the HPD standard reports product ingredients (down to 100 ppm or 1000 ppm) along with their known hazards. These are different from MSDS/SDS sheets because they report (almost) all ingredients, even if they are not deemed hazardous by the manufacturer. Also, SDS sheets focus on the impacts to installers only. EPDs are a summary of a product's life-cycle assessment (LCA), focusing on key environmental degradation effects called "impact categories." The number of these categories and the rules for performing the LCA is defined by product category rules, which are developed and agreed upon by the collective manufacturing industry of that product. An EPD may address only the manufacturing process ("cradle to gate") or can attempt to span the entire life cycle ("cradle to cradle/grave"). EPDs are currently being most widely used to assess products' global warming potential (GWP) in kgC02 or "embodied carbon."

EPDs represent a well-established methodology and can be used for comparison, but were originally intended for manufacturers to track internal progress and are only now being adapted for a broader use. Thus, great care is needed to take into account several nuances before truly making a comparison. The rules for HPDs and EPDs are also in a current state of flux, so it is important to check in with those who can provide expert guidance, be they architects, engineers, sustainability consultants, etc.

A PLEDGE FOR THE FUTURE

While the complexity of this work can seem daunting, it is also empowering to understand the immense and critical role that architects can play in improving and maintaining the health of those who use their buildings. As we make choices about building systems or materials, or advocate with clients, government regulators, manufacturers, and so many others in the industry, we can be the linchpin in this critical endeavor. And, although this is not a comprehensive list of all the health interventions an architect can implement, this simple framework focused on reducing and managing exposure to toxicants within the home environment will go a long way toward creating better health outcomes for the people who live in the spaces we design.

It is important to note that this is a process with inherent conflicts. Research is ongoing, shifting away from stand-alone materials toward concepts like systems thinking, life-cycle costs, and triple bottom lines. Exciting approaches such as biomimetics are expanding rapidly. Now is a thrilling time to be part of this work—there is so much yet to be done, but get started today by joining the AIA 2050 Materials Pledge at aia.org! ■

FEATURE

HEALTHY HOMES GROW IN BROOKLYN

How a suite of RFPs issued at the height of the pandemic may have changed the way we think about housing.

COMPILED BY BRIAN LOUGHLIN, AIA, APA, AND THE EDITORS

KINGSBORO PSYCHIATRIC CENTER CAMPUS

In March 2017, then Governor Andrew Cuomo announced the Vital Brooklyn Initiative, an effort to "bring health and wellness to one of the most disadvantaged parts of the state." The plan included over $1.4 billion in state funds targeted for various line items, including parks and pop-up farmer's markets. But over 90% of the funding is earmarked for housing ($578 million) and healthcare ($700 million) in Central Brooklyn. Early statements about the initiative emphasized the link between the overall health goals of Vital Brooklyn and housing: "It starts in the home, having the right housing, having the right environment, having the right support," said the governor in early 2018.

Soon after, the various requests for proposals (RFPs) followed, soliciting development teams for over a dozen sites and an estimated 4,000 units of affordable housing. The last site, a $400 million development that is part of the Kingsboro Psychiatric Center campus on Clarkson Avenue in East Flatbush, was awarded in July of this year to a team that includes Almat Urban, Breaking Ground, Brooklyn Community Services, the Center for Urban Community Services, Douglaston Development, Jobe Development, and the Velez Organization, with design led by Adjaye Associates and Studio Zewde. "The design is ambitious in its integration of the Kingsboro site with the adjacent street network and, therefore, the adjacent communities," says Sara Zewde, founder of Studio Zewde, landscape architect for the Kingsboro team. "For example, the new Sparrow Square is a public landscape for residents as well as community members that offers shade, open space, gardens, and a welcoming place to be."

With each public solicitation, Homes and Community Renewal, the issuing state agency, continued to highlight linkages between health and housing, referencing concepts, if not statistics, that public health officials, policy advocates, and urban planners have been circulating for years.

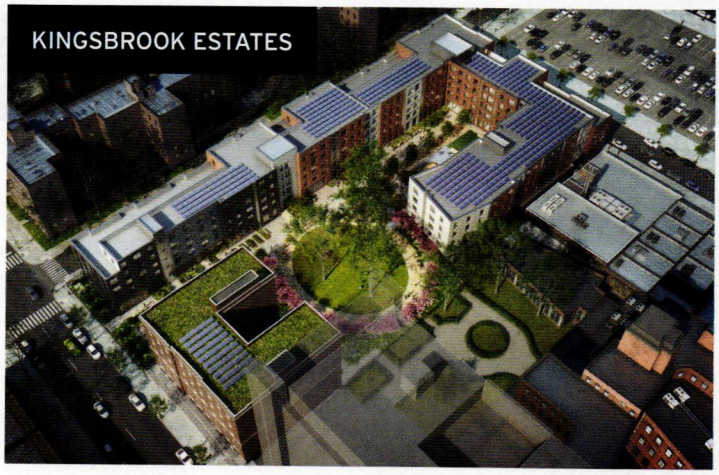
The remarkable ambition of this initiative, both for its size and focus, would soon be eclipsed and at the same time emboldened by the outbreak of the pandemic. The plans around health and housing that had seemed innovative and progressive suddenly became critical and necessary. To further explore this fascinating trajectory, we asked representatives of a few of the selected teams about the importance of health and housing, and how this initiative might have changed our perspective on the design, development, and production of affordable housing moving forward.

"I actually don't think the arc of COVID influenced our designs and the way we integrated healthy lifestyles and more healthy living into them. It was more about the opportunities that each of these sites presented. We all recognize we can make decisions as architects to do things like promote using the stairs, and it sounds so commonplace. But if you put the stairs in a spot where you've got a window, it just makes it much more appealing. It's a combination of raising awareness within the design community—which the Center for Active Design has been a big part of—and public agencies, like Housing Preservation & Development and Homes and Community Renewal, advocating for these healthier lifestyles."

—John Woelfling, Dattner Architects (Kingsbrook Estates, Vital Brookdale, Spring Creek Landing)

"Active design principles were key in the concept for Clarkson Estates: the lobby is a double-height space with visual and physical connections to the amenity programming as well as to the community center services and rear garden. From the moment you enter the building, you are encouraged to walk around, explore, and take advantage of what the building has to offer. Selected artists from the surrounding community created work for the common space and stairwells to encourage residents to use the stairs when possible. Additionally, we incorporated a full basketball court into the community center, which also serves as a multifunctional space for large community gatherings and is connected to service programs."

—Eugene Flotteron, CetraRuddy (Clarkson Estates, with CAMBA Housing Ventures)



KINGSBROOK ESTATES

CLARKSON ESTATES (work-in-progress rendering)

"We also wanted to create social spaces throughout the building—places for residents of all ages to spend time outside their apartments and get to know one another. Whether it is a shared laundry room close to a window on a residential corridor, or the ground-floor mailroom with a view of the rear garden, the building plan and circulation concept were designed to draw residents into the different programmatic functions of the building and encourage them to gather, see, and be seen."

—John Cetra, CetraRuddy (Clarkson Estates, with CAMBA Housing Ventures)

Facing page: Image courtesy of Roger Associates; this page, top: image courtesy of Dattner Architects and Clients: Hollander Development; CB-Emmanuel Realty; Brooklyn Community Housing & Services; this page, bottom: image courtesy of CetraRuddy/CAMBA

THE RISE

"Something we achieved with Xenolith on The Rise was the idea of more communal spaces at smaller scales distributed throughout the building, rather than just creating one big common room that holds everybody. Coincidentally, this was a strategy we borrowed from trauma-informed design, which is focused on giving residents choices, and the opportunity to congregate in smaller groups rather than forcing them to meet in larger ones. There are a lot of other really insightful strategies included in trauma-informed design that seem to really resonate with residents living through the pandemic. And we are seeing support for this decentralized strategy elsewhere in the development community, especially in housing for older adults, where socialization is being widely reported as a leading contributor to resident health and wellness, and to a dramatic increase in certain health and wellness indicators—especially life expectancy."

—Brian Loughlin, AIA, APA, Magnusson Architecture and Planning (The Rise)

KINGSBORO PSYCHIATRIC CENTER CAMPUS

"It seems that every affordable building of late has a fitness space or a gym with a treadmill, bike, and cross trainer. But if you look at the percentage of residents who use the space, it's incredibly low. 'It's not for us,' I've heard countless residents say. So we looked for strategies to activate these spaces in meaningful ways, and for us it became about bringing local members of the community in to teach classes, run programs, and draw in their neighbors. Similarly, urban agriculture is a big thing right now, but if it's going to become a tool for food justice and removing barriers to healthy food access for members of the Brownsville Community, we needed to create connections in the neighborhood. The hope is that residents will not only say, 'It is for us,' but, in many cases, "It *is* us!""

—Andrea Kretchmer, Xenolith Partners (The Rise)

Top: image courtesy of Dattner Architects and clients: MDG Design & Construction LLC; Smith & Henzy Advisory Group; The New York Foundling; Bottom: image courtesy of Adjaye Associates

"One thing we've focused on is how to make these spaces for different age groups and demographics in today's programming and context and really improve the quality of life for residents. One group that gets overlooked all the time is teenagers; how do we design for teenagers? We build lots of places for small children, typically a project will have features designed for adults, and a lot of attention gets paid to seniors. But there's this whole age group left unaccounted for. It's such an important stage of a person's development, and we want residents in that age group to feel there's programming for them and a place for them that's safe and they're going to enjoy. Part of our exploration at Terrain has been into the concept of 'playable ground' as opposed to 'playground.' We are trying similar things with older adults and introducing 'swings for seniors,' which are basically porch swings in an outdoor social setting."

—Brian Green, Terrain (Kingsbrook Estates)

VITAL BROOKDALE

"We need design professionals to push us, as developers, to make more quality decisions about how people live in the buildings. And we, as the affordable housing community, need to push city and state agencies to keep changing design standards to give design professionals the support they need to put these innovations in place."

—Donald Matheson, Almat Urban (Kingsboro Psychiatric Center Campus)

"As an architect who does a fair amount of housing, I wake up in the morning with a smile on my face because I think we may be at the beginnings of a golden age of housing, brought about by big changes in several areas, all of which lead to housing: changes in environmental consciousness and social policy; and change in transportation technology like electric vehicles, micromobility, ride-sharing, and so on. And, COVID be damned, I think we are still living in an age of the revitalization and rebirth of cities. All these things will impact housing in positive and creative ways. I'm an optimist!"

—Daniel Heuberger, Dattner Architects (Kingsbrook Estates, Vital Brookdale, Spring Creek Landing)

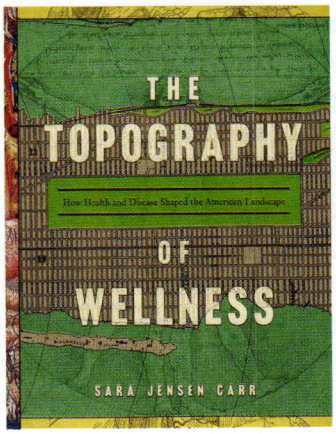
SPRING CREEK LANDING

Top: Image courtesy of Dattner Architects and clients; MDG Design & Construction LLC; Smith & Henzy Advisory Group; The New York Foundling; Bottom: Image courtesy of Dattner Architects and clients; L+M Development Partners; Apex Building Group; RiseBoro Community Partnership; Services for the UnderServed.

IN PRINT

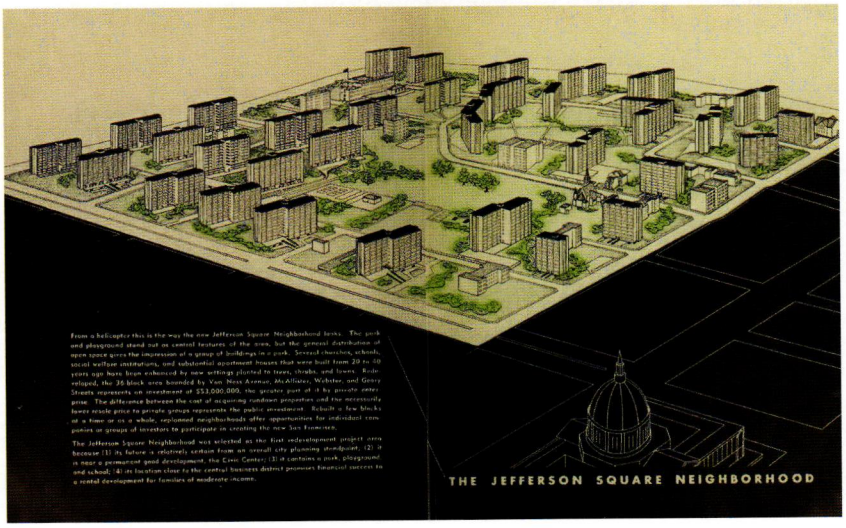
LIT REVIEW

Healthy Housing
by Karen Kubey



Left: *The Topography of Wellness: How Health and Disease Shaped the American Landscape*; facing page top: *Imperfect Health: The Medicalization of Architecture;* bottom left: *Root Shock: How Tearing Up City Neighborhoods Hurts America and What We Can Do About It;* bottom right: *A History of Housing in New York City*

Links between housing and health—and climate change—are no more apparent than in the tragic deaths of 11 New Yorkers trapped in generally substandard basement apartments during the flash floods of Hurricane Ida in September. The right to quality housing is necessary to achieve health equity, defined by the Robert Wood Johnson Foundation as a condition where "everyone has a fair and just opportunity to be as healthy as possible." This understanding is not new. In late 19th-century New York, for instance, a tenement redesign and new building code provided residents with improved access to light and air, mitigating exposure to infectious disease.



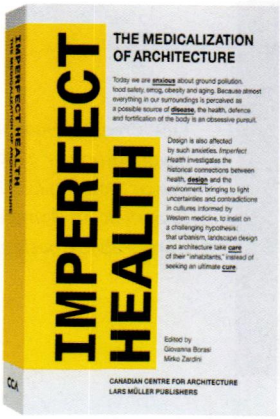
An expanding field of research demonstrates the positive health impacts of a safe, affordable home. But persistent housing insecurity and related health disparities remain. Happily, greater attention is now being focused on the potential for better housing to improve public health, along with more resources from a range of perspectives. Recent publications help to frame connections between housing design and health, offer arguments for more investment, give actionable steps for designers and developers, and present plans to improve the health of both residents and the planet.

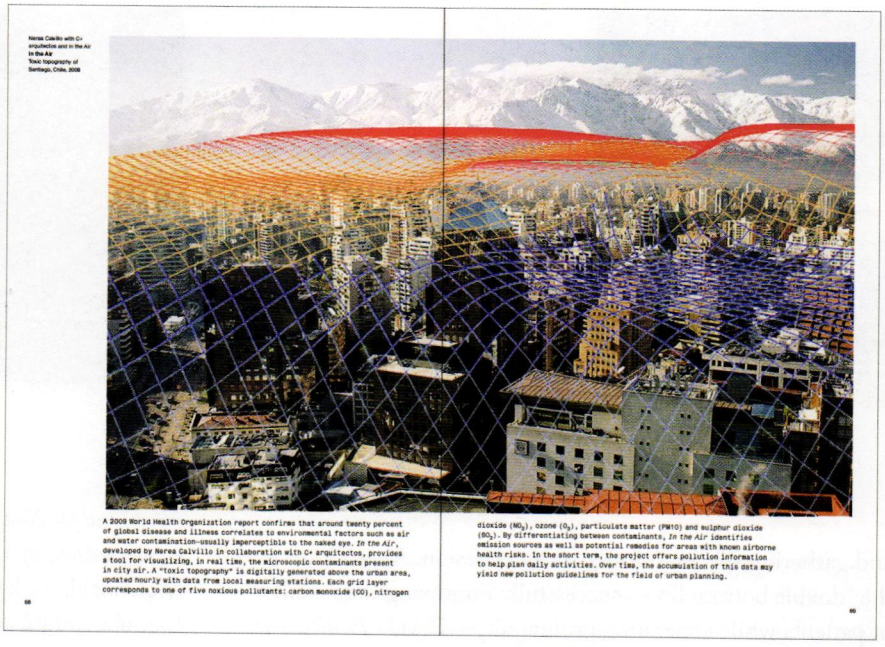
"The Most Contested Space of Wellness"

Resident health can be improved through housing interventions, but the pursuit of "health" in the built environment has also been used to protect real estate values and exclude marginalized groups through tactics like slum clearance. As Sara Jensen Carr writes in *The Topography of Wellness: How Health and Disease Shaped the American Landscape* (University of Virginia Press, 2021), "dwelling has historically been the most contested space of wellness, the center about which our arguments about equity and morality in the city revolve." The book, covering six epidemics, invites a critical view of the relationship between the design of the built environment and public health.

The Topography of Wellness builds on previous texts like *Imperfect Health: The Medicalization of Architecture*, edited by Giovanna Borasi and Mirko Zardini (Canadian Centre for Architecture with Lars Müller Publishers, 2012), a series of essays asking, "Should urbanism, landscape design, or architecture seek to take care of people rather than cure them?" Both nuanced books take advantage of our current turn toward health in the built environment, while critiquing troubling phenomena like what Carr calls the rise of "health as a consumer good."

Two updated classics, *Root Shock: How Tearing Up City Neighborhoods Hurts America and What We Can Do About It*, by Mindy Fullilove, MD (Ballantine Books, 2004; second edition, New Village Press, 2016), and *A History of Housing in New York City*, by Richard Plunz (Columbia University Press, 1990; revised 2016), offer more historical context and analysis against which to evaluate new ideas. Fullilove, a social psychiatrist, examines the legacies of 1,600 destroyed African-American districts in cities across the country and the impacts on residents' mental health and the collective consciousness. The book gives lessons for today's designers and planners: "We have a treatment for root shock; we have



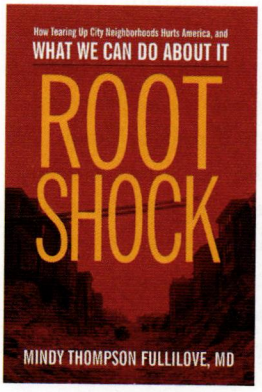


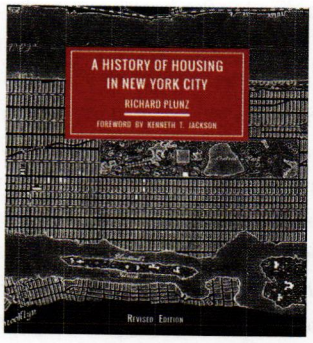
the possibility of preventing further damage by nurturing the world's neighborhoods instead of destroying them." Plunz's text situates housing design in the context of political, social, economic, and health concerns, giving clues to how the design and development of dwellings in New York might contribute to social change.

Housing is Healthcare

The design of housing is part of larger political and economic systems that also need rethinking to promote better health. Citizens Housing and Planning Council's (CHPC's) *Rx for Housing: Housing is Healthcare* (2020) asks, "What if the goal of the next NYC housing plan was to improve the health of New Yorkers?" The report offers six measurable policy goals to reduce health disparities, including ending homelessness and meeting the housing needs of seniors and people with disabilities. It also debunks misconceptions: children living in private housing are more than twice as likely to be exposed to lead than those living in NYC Housing Authority (NYCHA) developments, for instance. CHPC argues that the city's housing plan needs to do more than produce a certain number of affordable units and instead measure success by how it impacts the lives of New Yorkers.

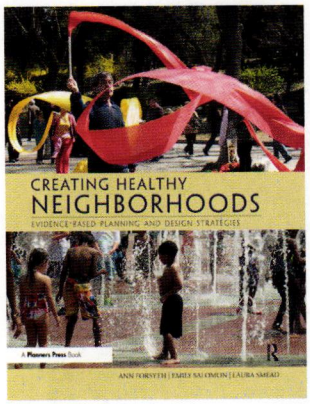
The Housing System: From Silos to System (The Architectural League of New York, 2019)—a conversation between Roseanne Haggerty, founder of Community Solutions, which seeks to end homelessness, and Donald M. Berwick, MD, a national leader in healthcare reform—examines what it would take to eliminate housing insecurity and improve human health through structural change. Like CHPC, Haggerty and Berwick work toward measurable goals. They also discuss techniques for encouraging diverse groups to collaborate and "naming people and knowing specific stories" of those experiencing homelessness, for example, to transform "a housing system seemingly designed to achieve poor results." Robust research on the positive mental and physical health impacts of safe, affordable housing, plus replicable on-the-ground strategies make CHPC's report and the league's public program useful for those seeking to take on our most intractable issues.

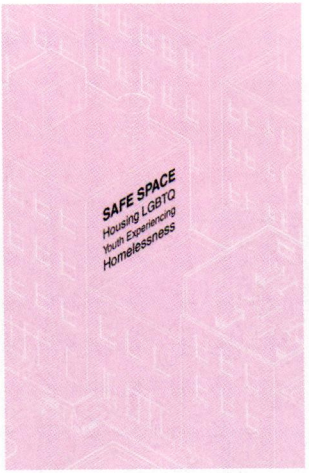


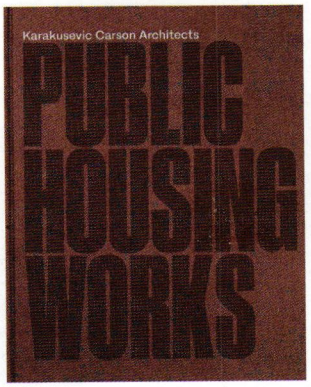


Step-By-Step Guidance

Parallel to the push for much-needed state support for health equity and the right to housing, the resources below focus on what designers, developers, and building owners can do now. *Healthy Housing for All* (Center for Active Design with the Urban Land Institute, 2018) primarily addresses developers and offers step-by-step guidance for promoting resident health in each phase of the design and development process. The report uses case studies to encourage developers to incorporate not just features addressing physical health, like an on-site gym and natural ventilation, but also public art







Left: *Creating Healthy Neighborhoods*; center: *Safe Space: Housing LGBTQ Youth Experiencing Homelessness;* right: *Public Housing Works*

and gathering spaces to foster social cohesion. Appealing to the "double bottom line—successfully improving the health of patients while generating profitability—CAD's *Healthcare: A Cure for Housing* (2019) delves further into the economic argument for investments in resident health, with more case studies for the healthcare sector.

Similarly actionable, and aimed at planners and designers, *Creating Healthy Neighborhoods: Evidence-Based Planning and Design Strategies,* by Ann Forsyth, Emily Salomon, and Laura Smead (Routledge, 2017), relies on extensive quantitative and qualitative data. Confirming common-sense links to improved housing, like increased happiness, the book also illuminates surprising ones, such as reduced smoking. Data in *Creating Healthy Neighborhoods* point to the need for more housing options, centering on those with the most health vulnerabilities.

LGBTQ youth and older residents are two of the most vulnerable groups in New York. Queer Students of Architecture, Planning, and Preservation's (QSAPP's) *Safe Space: Housing LGBTQ Youth Experiencing Homelessness* (Columbia GSAPP, 2019, available in print and online) presents a visual analysis of existing shelter types, funding research, and design and programming best practices, including "adjacency to local clinics or partnerships with mobile clinics." Addressing the other end of the age spectrum, the *NYC Aging in Place Guide for Building Owners* (2016), which I edited in collaboration with advisors convened by the American Institute of Architects New York Chapter's Design for Aging Committee, promotes health for older New Yorkers through retrofits to multifamily buildings, designed to reduce the risk of falls and combat social isolation.

Human and Planetary Health

Human and planetary health cannot be separated. And no plan to improve New Yorkers' health through housing can ignore the city's largest stock of affordable homes. Enter *A Green New Deal for New York City Housing Authority (NYCHA) Communities,* by Daniel Aldana Cohen, Billy Fleming, Kira McDonald, Nick Graetz, Mark Paul, Alexandra Lillehei, Katie Lample, and Julian Brave NoiseCat (Data for Progress with two University of Pennsylvania centers, 2019). The plan for deep energy retrofits to existing NYCHA homes plus new public housing—to "provide economic and environmental benefits to racialized and working-class communities," reduce residents' asthma rates by 18% to 30%, and "massively improve safety, health, and comfort in NYCHA apartments"—is essential reading on local approaches to dual climate and housing emergencies. Also addressing health equity and climate justice, *Design as Preventative Care: Achieving Climate Justice through Interdisciplinary Collaboration* (2020) by the Urban Design Forum's Forefront Fellows, zeros in on design strategies to mitigate the effects of extreme heat in residents' bodily systems; and *Enterprise Green Communities Criteria* (Enterprise Community Partners, 2020), the national green building framework designed for privately developed affordable housing, incorporates healthy living metrics.

Public Housing Works by London's Karakusevic Carson Architects (Lund Humphries, 2021) offers design inspiration for the future of healthy public housing. Though London and New York have suffered from similar histories of disinvestment, London has recently been developing new public housing. This book details some of the best work, with architectural drawings, critical essays, and documentation of community-engaged design processes. Bringing it back home, *Scalable Design Solutions for NYCHA* (Peterson Rich Office with the Regional Plan Association, 2020) addresses the social determinants of health for NYCHA residents through integrated design approaches guided by resident participation. The proposed interventions renovate and expand existing NYCHA towers to provide improved, greener spaces for current residents and additional new homes. Together, these publications offer more than enough data, historical lessons, design ideas, and guidance to provide healthy housing for all New Yorkers. The strategies are many, but the imperative is clear. ■

OP-ED

DECENT, SAFE, AND SANITARY: IS HOUSING HEALTH?

BY BRIAN LOUGHLIN, AIA, APA

In September of last year, in the midst of what appeared to be the height of the pandemic in this country, the Centers for Disease Control and Prevention (CDC) issued an agency order under Section 361 of the Public Health Service Act to temporarily halt residential evictions to prevent the further spread of COVID-19. (At the time this order was issued, fewer than 175,000 deaths had been attributed to the pandemic.) The order effectively extended a moratorium originally put in place by the CARES Act issued by Congress at the very beginning of the pandemic as an economic relief bill.

And while recently the Supreme Court struck down attempts to further extend this protection for renters at the federal level, there now exists a complex of tapestry of city and state moratoria with varying levels of protection, restrictions, and subsidies. The panic subsided and the partisan politics moved back in. (At the time of this writing, nearly 700,000 deaths have been attributed to the pandemic.) But we are left with a very telling series of events that first cast stable housing as economic relief, and then as protection from what the CDC described as a "historic threat to public health."

"Housers"—those of us who work in housing and community development—are known for trying to tie housing provision to various sectors and segments of society beyond the simple concept of a house: housing is infrastructure, housing is healthcare, housing is the economy, housing is the building block of cities. This constant effort of creative coupling is largely an attempt to raise a broader awareness for an issue that seems unable to get enough attention on its own, except when it is the vehicle for misplaced blame like the 2008 housing crisis, and to foster the understanding that housing is a complex, politically charged socioeconomic system that doesn't operate on its own.

"Furthermore, housing stability helps protect public health…" oddly echoes a sentiment found in our nation's first piece of housing legislation, the Wagner-Steagall Act of 1937, which created the federal agency that would become the Department of Housing and Urban Development. That legislation, and its follow-up in 1949, linked housing that was "decent, safe, and sanitary" to reducing unemployment, stimulating business activity, and being required to protect the "general welfare and security of the Nation."

Our nation's first piece of housing legislation linked housing that was "decent, safe, and sanitary" to reducing unemployment, stimulating business activity, and being required to protect the "general welfare and security of the Nation."

It is no small coincidence that this optimism directly coincides with the emergence of modernist architecture in this country—and its strongly held socially minded underpinnings. Public housing advocate Catherine Bauer, largely credited for being the driving force behind the 1937 legislation, drew great inspiration from the social housing projects of early European modernists, which she witnessed firsthand and captured in her seminal work *Modern Housing*. Among an unprecedented amalgamation of innovative ideas and new technologies, many of these projects sought to use architecture and planned housing to address the great public health crisis of that time, tuberculosis.

Architect-designers Bruno Taut, Josef Hoffman, and Peter Behrens, in particular, spent considerable

time focused on how building design and construction could affect the spread of this public health crisis, inventing new forms and ways to celebrate access to sun, light, and air. Paul Overy, in his 2008 book *Light, Air and Openness,* links the model of the sanatorium to many of the designs featured in the largely influential "Deutscher Werkbund" exhibition in Stuttgart, Germany, in 1927. And, while the sanatoriums found in places like Davos, Switzerland, were primarily reserved for the upper class, the transmission of large windows, open-air balconies, and the health benefits that came with them were a key fixture of the worker housing of early modernism and the social housing that would soon follow. For Behrens, the disproportionate impact of tuberculosis on poor people located in overcrowded urban areas rendered it a "social evil" that needed to be addressed, as much as it was a public health crisis, and a spatial one at that.

"Decent, safe, and sanitary" turned sentiments of providing for basic human needs toward a classist and often racist commentary on the social conditions that impacted those needs, which would be used as a moral justification for slum clearance.

Turning back to the housing of the present day, which by regulations and incentives was on a trajectory toward smaller and smaller units with shared amenities favored over personal space, many of us are looking to see what innovations and benefits to residents this current public health crisis might bring. At the local level, two of the most important agencies to provide funding for affordable housing in the city—Housing Preservation and Development, and Homes and Community Renewal—were weeks away from releasing updates to their respective design guidelines when the pandemic hit. Whether it was opportunism or just logistics, when both sets of guidelines were finally issued many months later, they included accommodations for "offices or workspaces," emphasized "quality of life" amenities and features, introduced parameters around "equitable and healthy buildings," encouraged maximizing outdoor spaces, and seemed to relax strict maximum sizes with specific minimums and "target areas."

Just as these two agencies quickly shifted their focus to requiring amenities that enhance the quality of life, health, and equity for residents, we would do well as designers, developers, and providers of housing to follow their lead. There are two cautionary tales before us, however, as we consider what the intersection of health and housing could do, mean, and look like in the not-too-distant future. The first is simple and involves not being satisfied with little tremors in the way we regulate and incentivize housing, but to challenge ourselves and our colleagues to find new forms and ways to celebrate health and housing—to take these initial offerings and push them as far as we can.

The second is much more complicated and requires us to look at the historical precedents that saw a similar intersection between health and housing over a hundred years ago. "Decent, safe, and sanitary" was a mantra that quickly became its own trajectory. It carried sentiments of providing for basic human needs toward a classist and often racist commentary on the social conditions that impacted those needs, which would be used as a moral justification for slum clearance and eradication of anything that was "unsanitary." Following the creation of the United States Housing Authority in 1937, the WPA released a series of what can only be called propaganda posters that included slogans like "Slums Breed Crime," "Planned Housing Fights Disease," "Cure Juvenile Delinquency in the Slums by Planned Housing," "Rotten Living Decent Living through Planned Housing," and "The Solution to Infant Mortality in the Slums: Better Housing." And every piece of housing legislation that came after 1937 carried with it the acknowledgement that "healthy housing" was needed and the requirement that "unhealthy housing" be demolished.

Social reformer Jacob Riis once described the progressive movement that pushed for the tenement reform laws in our city as a confluence of "the cynically-minded with the civic-minded." Let's be careful to prioritize the latter over the former as we consider what makes better housing.

Brian Loughlin, AIA, APA, is the director of planning and urban design at Magnusson Architecture and Planning PC. He co-chairs the Housing Committee for AIANY, is the chair of American Planning Association Housing and Community Development Division, and is a faculty member at Columbia's Graduate School of Architecture, Planning and Preservation. ■

READ MORE ABOUT HEALTHY HOUSING ONLINE...

Find more articles at **aiany.org,** including an op-ed by Cory Kantin on Mandatory Inclusionary Housing:

"New York City has built and preserved 165,590 affordable housing units since 2014, and yet it is much more expensive to live here than ever before. How and why is this happening? It is because 79% of the 'affordable housing' that has been built has been packaged with luxury housing—the very thing that drives up the cost of living in the first place. The program, called Mandatory Inclusionary Housing (MIH), is a public-private partnership with developers who agree to build 25% to 30% of a development as affordable housing units in an otherwise market-rate development, in exchange for a density bonus and tax credits via the 421-a tax program. While MIH does create affordable apartments, it's all about the ratio. In the same way that a juice drink can seem healthy, it depends on the nutrition facts or the percentage of juice vs. sugar," writes Kantin, who is a Brooklyn resident and activist with a background in real estate.

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WELCOME BACK TO THE CENTER!

BENJAMIN PROSKY, ASSOC. AIA, EXECUTIVE DIRECTOR
AIA NEW YORK CHAPTER/CENTER FOR ARCHITECTURE

Photo credit: Sam Lahoz

I am thrilled that the Center for Architecture officially reopened to members and the general public in October. Since our staff returned full-time in early September, we have been working on various new pandemic-era safety and well-being protocols so we can responsibly make our spaces and programs accessible in-person again.

Over the summer, we exclusively welcomed a small but important group of our constituents—students—for our youth summer programs. From July through August, we successfully ran 13 in-person summer programs for 158 children, who safely met to learn about architecture and design.

After over a year-and-a-half-long hiatus, this fall we relaunched our vibrant exhibitions program. Prior to our official launch, we welcomed a two-week pop-up exhibition, "What We Build," produced and curated by the New York Building Congress (NYBC) to launch its centennial celebrations. We were thrilled to celebrate this milestone with NYBC, which explored the vibrancy and resiliency of New York's building sector over the past century.

For the rest of the fall season, we will host two fantastic exhibitions. "Cairo Modern," curated by Mohamed Elshahed, showcases works by Egyptian modernists from the 1920s to the 1970s, half a century of rich architectural production that complicate our present understanding of global modernism. The exhibition introduces audiences to key architects from the period as well as examples of their works commissioned by the state and the city's burgeoning bourgeoisie, who embraced the Modernist home as the materialization of new notions of class, identity, and modernity. Meanwhile, "AIANY Design Awards 2020-21" features the winning projects from two competition cycles, exhibited together for the first time. AIANY is excited to celebrate the twenty-four 2021 winning projects and the thirty-five 2020 winning projects.

And, of course, it would not be fall at the Center without Archtober, New York's annual festival of architecture and design. In 2020, we were heartened to have the support of our many Archtober partners, who pivoted with us to offer mainly virtual activities. Now in the festival's 11th year, Archtober featured an exciting mix of virtual and in-person programming opportunities, allowing organizations to accommodate diverse audiences. This year, nearly 80 partner organizations organized 400+ events and exhibitions. A newly rebranded website (archtober.org) offers dynamic listings, maps, and even a store where Archtober diehards can purchase T-shirts (customizable by borough), baseball caps, bucket hats, totes, socks, and even fanny packs. Interested in design experiences year-round? Our Anytime Activities section includes dozens of self-led activities you can do from the comfort of your home.

Finally, I'm excited to update you about an important new program, the Center for Architecture Lab. Created in response to the global COVID-19 pandemic and the reinvigorated racial justice movement in the United States, the Center for Architecture Lab encourages our community to consider underrepresented perspectives, critical questions, and innovative solutions to systemic problems in architecture and other design professions. A multi-month, multidisciplinary residency program, the lab offers voices in architecture and design full authorship over dedicated areas of the Center's digital platforms. Our first residents, the Indigenous Scholars of Architecture, Planning and Design (ISAPD), a student-led group at Yale University, took over our platforms from May 10 to July 23 to investigate the theme of Indigenous Futurism. The group created a robust digital exhibition page featuring historical content, incisive essays, interviews with indigenous leaders, and even submissions to an indigenous futurism model-making competition. Our second residents were Philadelphia's Community Design Collaborative (CDC), an organization that provides pro bono design services to local non-profits, creating engaging volunteer opportunities for design professionals while highlighting the importance of participatory design practices. Throughout its residency, the CDC highlighted the organization's 30 years of experience working with communities, hosting weekly Instagram Live conversations with past clients and volunteers. These conversations are available on the Center for Architecture's Instagram, @centerforarch.

There is much to do and discover this fall at the Center for Architecture! I look forward to reconnecting with many of you over the coming months. See you at the Center! ■

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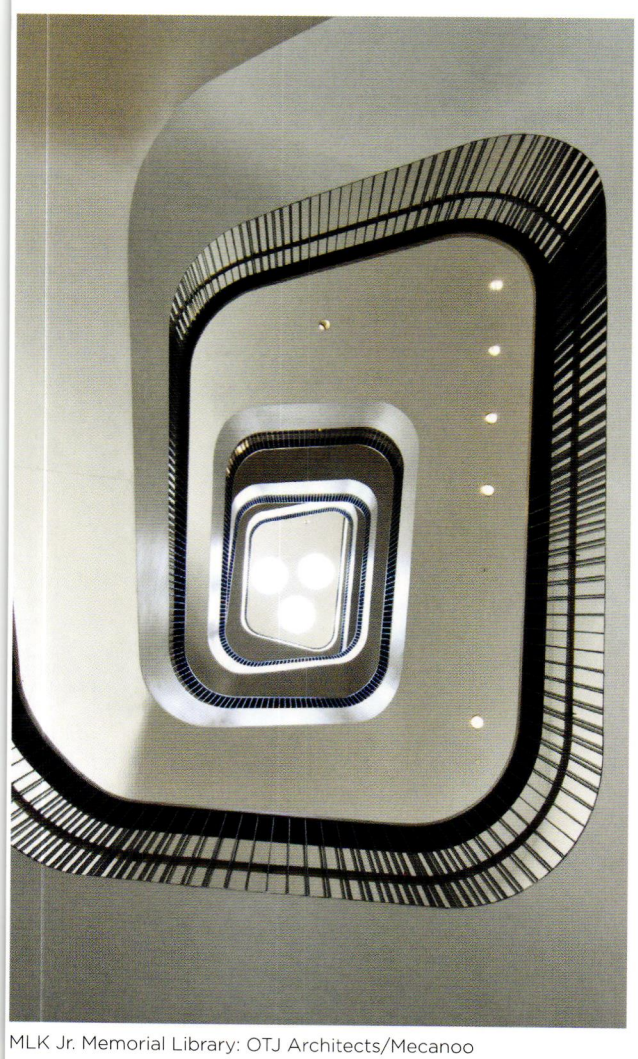

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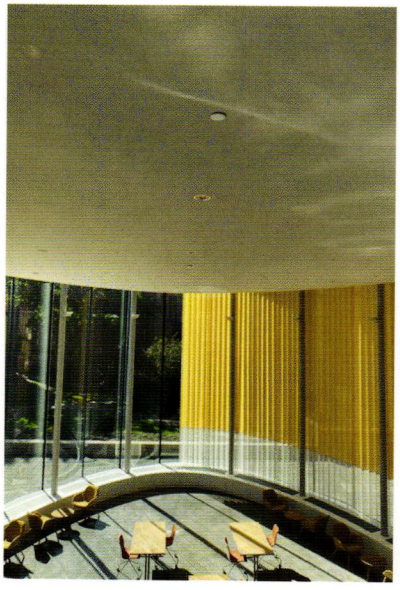

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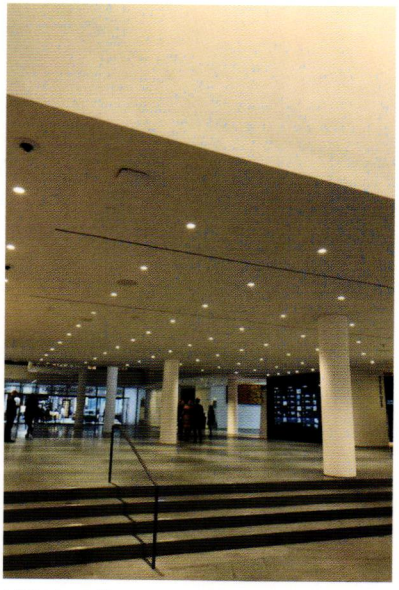

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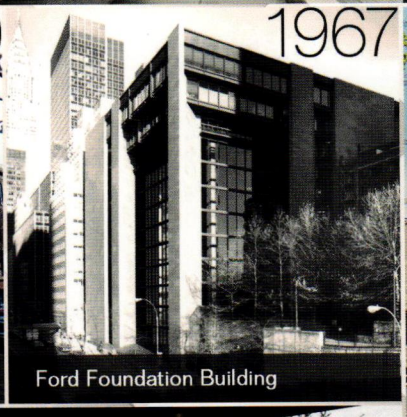

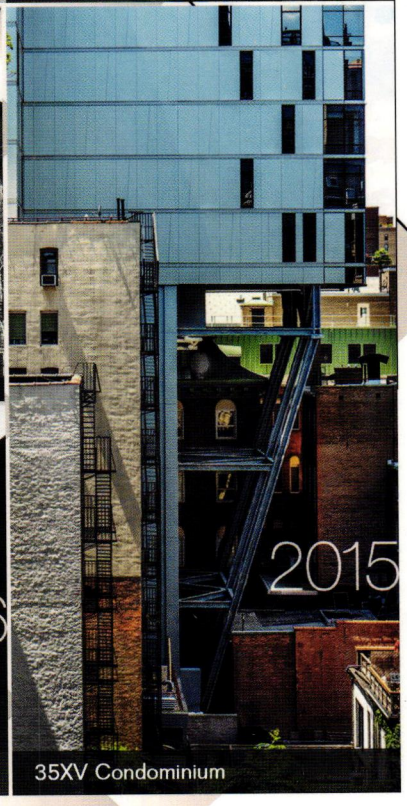

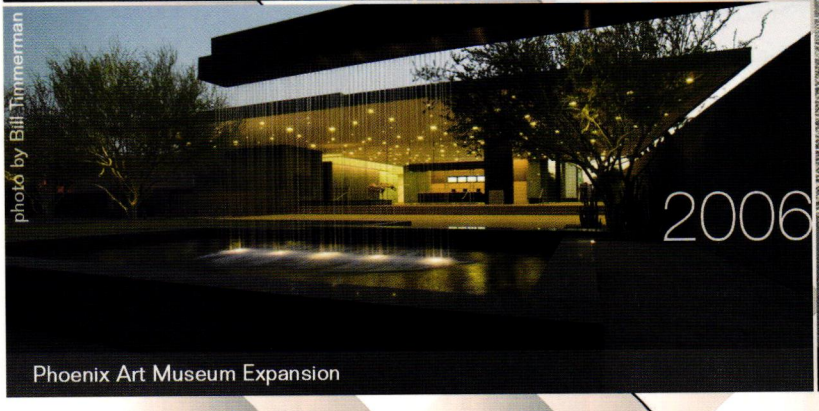

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