Gensler

STUDIO SPOTLIGHT BY THINK WOOD

THINK WOOD®

A Better World Through Design

With 50 locations worldwide, Gensler is the largest architecture and design firm in the world. Named one of the 10 most interactive architect companies three times by Fast Company, the employee-owned firm is proving itself to be a nimble giant—pushing the boundaries of what is possible through the power of design.

Founded in 1965 by Art Gensler and under the current leadership of Co-CEOs, Andy Cohen and Diane Hoskins, the firm is widely credited with creating the blueprint for how professional design firms organize and manage themselves today.

More than half a century later, Gensler continues its legacy of innovation by improving the human experience with forward-thinking design solutions, developing proprietary tools that enable architects to quickly execute data-driven designs, and topping the list of top green design firms.

The Gensler Research Institute tackles some of the world's most pressing design challenges from climate change and resilient architecture to human health and workplace wellness. The firm's Gensler Cities Climate Challenge (GC3) pledges a commitment to the elimination of greenhouse gases associated with the built environment, with every project they design to be net-zero for energy and water consumption as quickly as possible.

PHOTO | David Lauer

PHOTO | David Lauer

"Gensler uses design to elevate human experience. Guided by determined optimism, we believe the power of design can spark positive change and create a future that promotes equity, resilience, and well-being for everyone."

COMPANY MISSION

From the studio:

Mass timber is becoming an important part of Gensler's portfolio thanks to its fire resistance, structural integrity, and environmental attributes. Mass timber buildings weigh approximately 20% of comparable concrete buildings, which reduces their foundation size and embodied energy.

First United Bank in Fredericksburg

For the First United Bank in Fredericksburg, Texas, the project team developed a design that truly reflects the bank's community values. Warm natural building materials, ample sunlight, and an indoor-outdoor connection to the native vegetation surrounding the structure all attest to the building's aesthetic as a town gathering place, rather than just a financial institution. Instead of prioritizing traditional sustainable certifications, First United Bank instead emphasized seamlessly integrated sustainable practices into the building design, materials, and operations. This led to their choice of mass timber construction, along with a number of innovative eco-friendly design features.

"During the design phase, First United Bank asked for sustainability, and we proposed Net-Zero Energy, but they asked us, 'Well, is there anything more that we can do?' And that's how we got to CLT, not only as a design tool, but as a sustainable solution."

TAYLOR COLEMAN, AIA
PROJECT ARCHITECT AT GENSLER

PHOTOS | Gensler

The cantilevered roof overhangs optimize sun exposure throughout the year, and the future rooftop solar panels are designed to offset 130k kWh annually to achieve Net-Zero Energy.

This building is the first full mass timber structure in the nation to use southern yellow pine cross-laminated timber (CLT) panels. The choice to use U.S.-sourced, renewable timber not only embodies carbon over the life cycle of the building, but requires less energy to transport, reducing the project's overall environmental impact.

First United Bank has "fully embraced" mass timber and has continued to use the material in its bank buildings. An additional 12,500-square-foot location completed in Shawnee, Oklahoma is the first full mass timber project in that state and another recently completed 37,000-square-foot project in Sherman, Texas will serve as the bank's regional headquarters.

PHOTOS | Gensler

Like what you see? **Visit ThinkWood.com**

Jackson Hole Airport

For the expansion and renovation of Jackson Hole Airport, Gensler leveraged expertise from its aviation, hospitality, and brand design practices to create a modern, efficient airport with a design inspired by the regional context of Western Wyoming.

The 115,500-square-foot airport clearly distinguishes itself from the aesthetics of typical airports. Most notably, the heavy-timber structure is left exposed to reflect the natural beauty of nearby Grand Teton National Park. The mass timber expansion included a new ticket hall, rental car area, and baggage screening building. This additional space enabled the design team to simplify the way people move through the airport, a stark contrast to the previously congested floor plan.

PHOTOS | Matthew Millman

PHOTO | David Lauer

The design team selected structural wood because of its varied grain and color palette, as well as its ability to perform under a variety of loading conditions. Douglas-fir columns anchor the space while glulam beams dramatically span the main hall, joining the columns via detailed steel connections. A queen post truss system was integrated with the glulam beams to reduce their depth, maximizing the spaciousness of the terminal and allowing for expansive views. The overhang and massive wood columns greet airport travelers with a sense of solidity and permanence.

"We considered a steel structure and we considered a concrete structure, but none of those really made sense. They can be quite nice, but perhaps aren't suggestive of the regional aesthetic."

BRENT MATHER
DESIGN DIRECTOR AND PRINCIPAL AT GENSLER

"I can't imagine a job like this being done with anything but glulam," says Ron Shamblin, president of Western Woodwright, the glulam supplier for the project. But strength isn't the only thing that sold architects on glulam, explains Brent Mather, Design Director, Principal at Gensler leading the project.

PHOTO | Tim Griffith

2100 Kettner

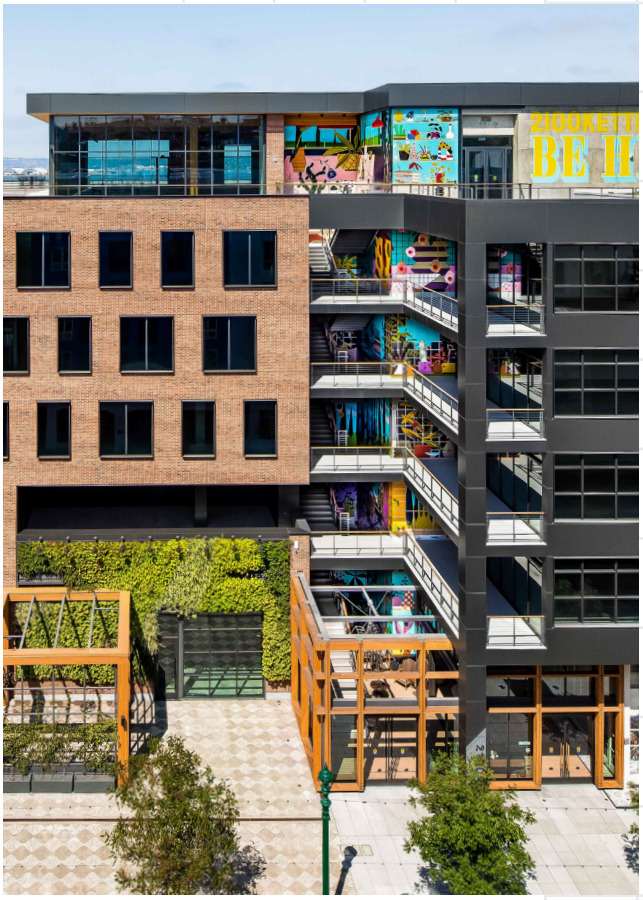
After acquiring a prime 1.2-acre site in San Diego, California's Little Italy, Kilroy engaged Gensler to help design the neighborhood's first new office development in 20 years. The 235,000-square-foot project transforms an entire block of largely vacant lots and storefronts into Class-A office space with ground-floor reserved for distinct retail and dining experiences—including an "urban living room."

Together with Kilroy, the team envisioned the six-story development near the edge of the waterfront as a destination for both tech tenants and the surrounding community—blurring the lines between the public and private realms.

The upper levels are tailored to the needs of tech office tenants, with large, flexible floor plates that allow for distanced and collaborative layouts. Outdoor terraces on each of the upper floors provide shade and allow cool coastal air to circulate throughout the spaces, with sweeping views of the bay and downtown. The floors are connected by an activated, open air stairwell that showcases artwork. Several other vibrant murals and eloquent public art installations are incorporated to animate the property and further strengthen the connection to the greater community.

The structure is cast-in-place concrete with post tensioned decks. The exterior skin consists of precast brick panels, aluminium panels stucco, structural Douglas fir timbers, and aluminium soffits. The rooftop amenity spaces consist of a six-ply CLT structure surrounded by an outdoor space utilizing a pedestal paver system.

Additional amenities include power actuated hardware at all doors and glass entrances, HEPA filtration systems throughout, and touchless destination dispatch elevator controls.



PHOTOS | Haley Hill

PMX-35

How do you design the world's tallest net-zero timber building using a factory-built "kit of parts"? To answer this question, Gensler partnered with Alphabet-backed Sidewalk Labs to explore how prefabricated, offsite manufacturing can produce replicable timber building components to reach greater heights than ever before.

The result is Proto-model X or PMX-35, a 472,000-square-foot building prototype designed to accommodate 35-stories of retail, offices, residential, and integrated building services below ground to maximize efficiency. Standing at approximately 426 feet tall and 158 feet wide, the structure uses a cross-brace frame and a tuned mass damper—engineering tactics more typical of super-tall building design. PMX-35 was developed through collaboration with a world-class team of architects, engineers, and environmental designers, many of whom are emerging leaders in the field of mass timber buildings.

The project approach is borrowed from product manufacturing where it's common to design and test prototypes before launching into full-scale production. As a digital proof-of-concept, the prototype stands in for a real building and provides insights into its hypothetical performance.

All design components in PMX-35's "kit of parts" are modular and interlocking, including infrastructure like plumbing. Standardization of the parts enables the manufacturing process to be faster and more predictable, and their interlocking nature enables easy on-site assembly. In principle, this speeds up construction, making mass timber buildings less time and resource intensive to complete which drives affordability for builders and tenants.

RENDERINGS | Michael Green Architecture and Gensler

STEVEN PAYNTER
OFFICE BUILDINGS LEADER AND PRINCIPAL
GENSLER

In this exclusive Q+A, architect Steven Paynter takes us behind the scenes and shares how an interdiciplinary team of experts developed a prototype for the workd's tallest net-zero timber building. The interview has been edited lightly for clarity.

TALL TIMBER AMBITIONS:

Designing the world's tallest net-zero timber tower.

Historically, architecture is the only design industry that doesn't build prototypes. That's really because it would be so expensive. However, with new advancements in digital technology, we were able to build a full working digital mode of the 35-story timber-tower prototype—Proto-Model X or known simply as PMX—that could be tested to its limits in the same way an auto manufacturer might build and test a concept car.

Building Information Modeling (BIM) and virtual design and construction (VDC) are really the tools that have made this prototyping possible. By designing a detailed virtual model and then constructing parts of that and testing it in the real world, we were able to establish what could be taken to market now and what needed more research and development.

PMX-35 is aiming to achieve ambitious targets around energy usage that set a pathway towards zero carbon emissions, in addition to higher standards for flood mitigation and use of resources. To achieve our ambitious goals, the team developed a physical kit of parts that includes working with Sidewalk Labs to produce standardized construction materials, and digital and robotic technology in order to support pre-fabrication locally. The project is designed so that all of the above grade structure and about 90% of the facade, mechanical, electrical, and plumbing system can be prefabricated offsite.

"When it comes to cutting carbon in the built environment, one of the biggest opportunities is making mass timber mainstream. We need to shift from asking 'why mass timber?' to 'why not, mass timber?"

STEVEN PAYNTER
OFFICE BUILDINGS LEADER AND PRINCIPAL AT GENSLER

RENDERING | Michael Green Architecture and Gensler

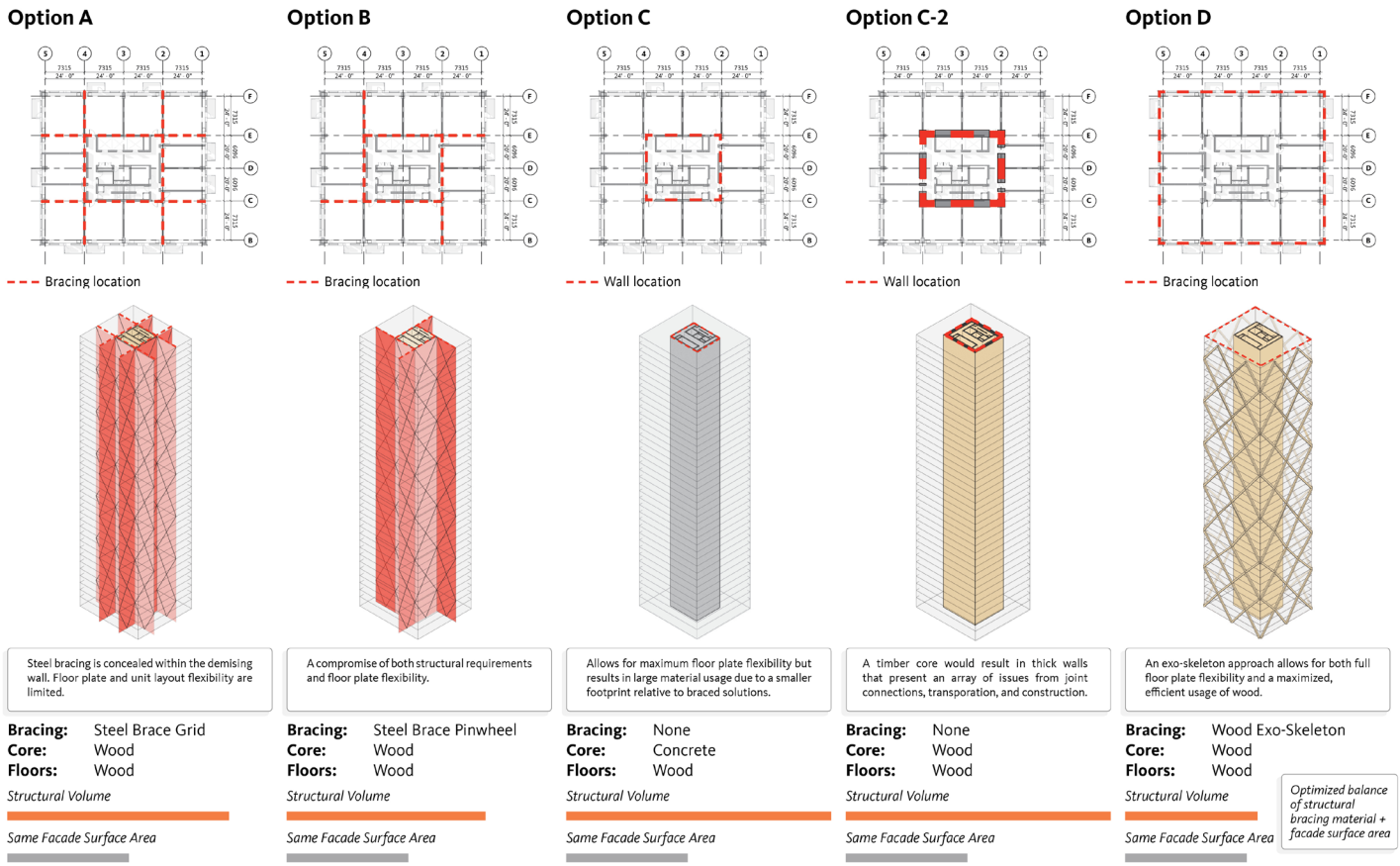


IMAGE | Michael Green Architecture and Gensler

This was incredibly challenging to achieve and we repeatedly reran our modeling to reduce the number of unique parts in the building. For example, we started day one with more than 3,500 unique floor panels. By the time we finished we were down to six. To offer more aesthetic possibilities, each building could also be "skinned" to produce various effects.

To respond to lateral pressure on our 35-story timber building, we drew from engineering tactics more typical of super-tall building design: a cross brace frame and a tuned mass damper. After testing steel pinwheel, concrete core and timber core options we narrowed it down to a timber exoskeleton approach. The PMX exoskeleton system consists of big timber beams crossing the facade of the building.

The mass damper's final addition helped us deal with the movement in the building, getting the frequency of the building sway down to where it needed to be for occupant comfort. A tuned mass damper is typically a heavy member, connected by springs to the structure of the building at the penthouse level—in this case the prototype envisions an aggregate material made with waste products to further reduce the building's carbon footprint. It helps absorb shock, moving back and forth and acting as a countervailing force to wind or earthquakes.

These efficiencies in both operational and embodied carbon would put Gensler six years ahead of the Gensler Cities Climate Challenge (GC3), intended to set a new standard reducing all carbon emissions in the built environment by 2030. With Sidewalk Labs and PMX we hope to drive transformational change on a global scale.