

# VERTICAL URBANISM

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*TOMORROW'S  
VERTICAL URBANISM:  
25 DESIGNERS SHARE  
THEIR FUTURE PROJECTS*

*A QUARTER OF A  
CENTURY ON: THE  
REBUILDING OF THE  
WORLD TRADE CENTER*

*PLUS TOKYO, BANGKOK,  
LOS ANGELES, SAN  
FRANCISCO, HONG  
KONG & PORTO ALEGRE*



## Revisiting Paul Rudolph

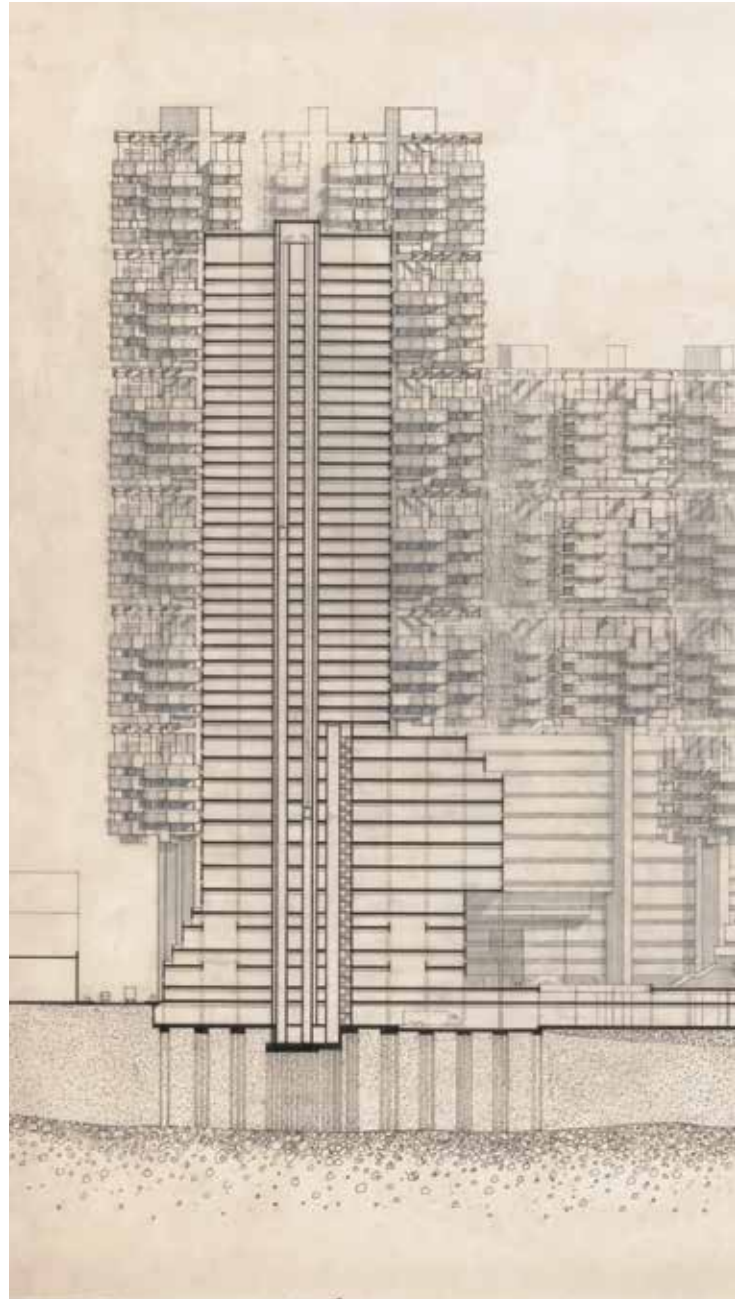
The architect's visionary urban forms pushed the boundaries of prefabrication and scale, influencing generations of designers, writes *Abraham Thomas*.

From the very beginning of his career, the architect Paul Rudolph was fascinated with the possibilities of using industrial prefabrication to create new systems of construction and assembly that not only were more cost-efficient than conventional means, but also unlocked the potential for building at a previously unimagined scale with new architectural forms.

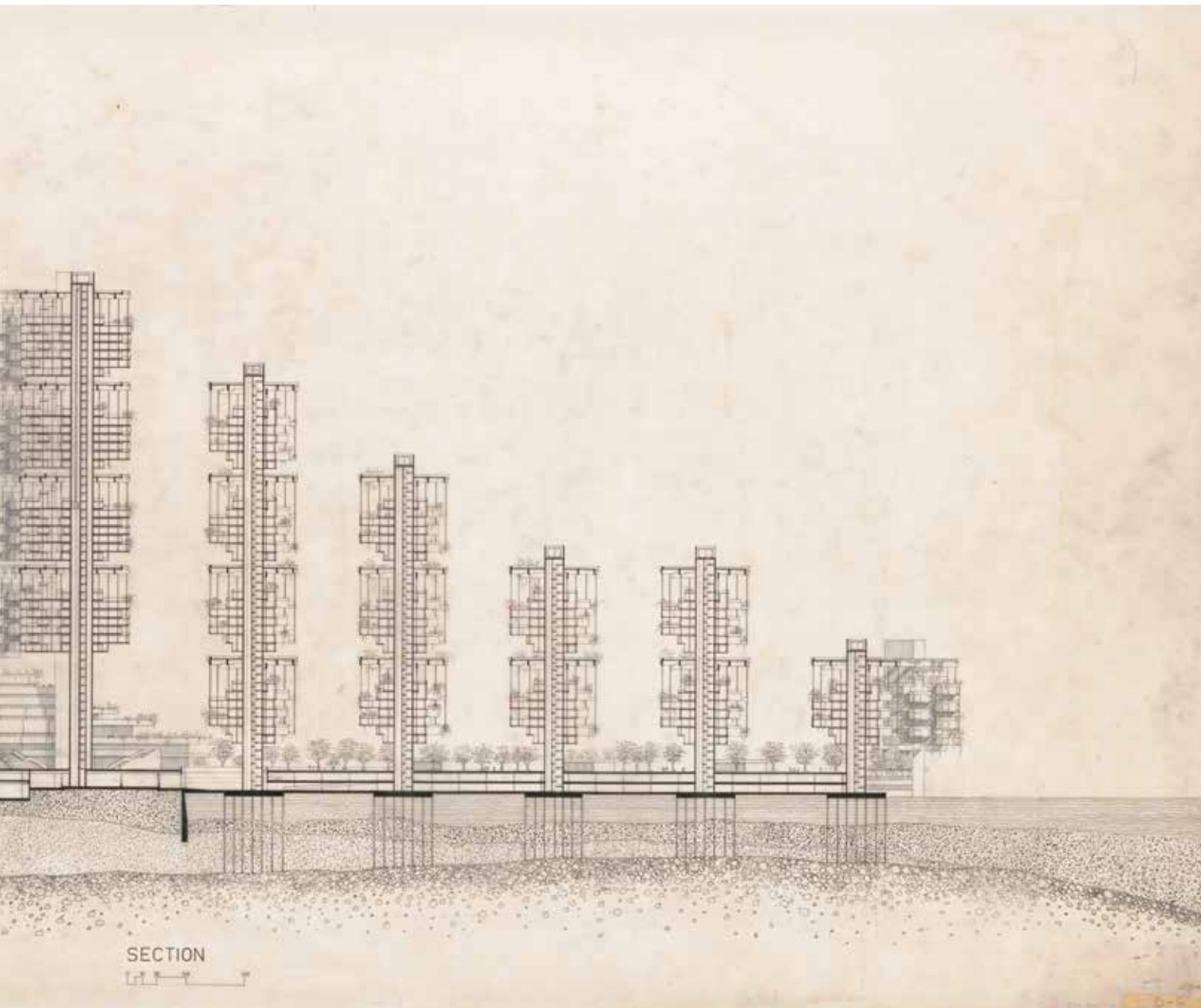
The resulting typology—the megastructure—was a large composition of prefabricated modules arranged to suit the programmatic needs of a building or complex of buildings. As early as 1954, Rudolph sketched a design for an apartment tower consisting of trailer-home-type modules suspended from four central supporting masts, anticipating later avant-garde projects such as the British group Archigram's radical Plug-In City proposal (1963–66) and the Japanese Metabolist architect Kisho Kurokawa's Nakagin Capsule Tower (1970–72).

In various lectures and articles, Rudolph often returned to this idea of the prefab mobile-home unit as the “20th-century brick,” essentially a factory-assembled module that could be pre-fitted with plumbing, wiring, heating, and finishes, and then trucked in multiples directly to the construction site for “plugging in.” The modular units envisioned by Rudolph might be compared to shipping containers (also standardized, industrially produced units), which since the 1980s have been repurposed in architectural applications, including housing.

Rudolph adapted the concepts of modular construction on a hugely ambitious, urban scale in two megastructure projects for New York City, both of which attracted widespread press coverage—not all of it favorable—and both of which remained visions on paper. For the Graphic Arts Center (1967), the Amalgamated Lithographers Guild



*“Rudolph referred to the Graphic Arts Center as a city within a city, the obvious solution of tomorrow’s urban problems.”*



of America invited Rudolph to design a vast mixed-use project incorporating office buildings, residential towers, an elementary school, restaurants, and industrial printing spaces that would straddle the West Side Highway and extend into the Hudson River.

As if an augmented version of his 1954 Trailer Tower, each apartment tower in the complex consisted of clusters of “20th-

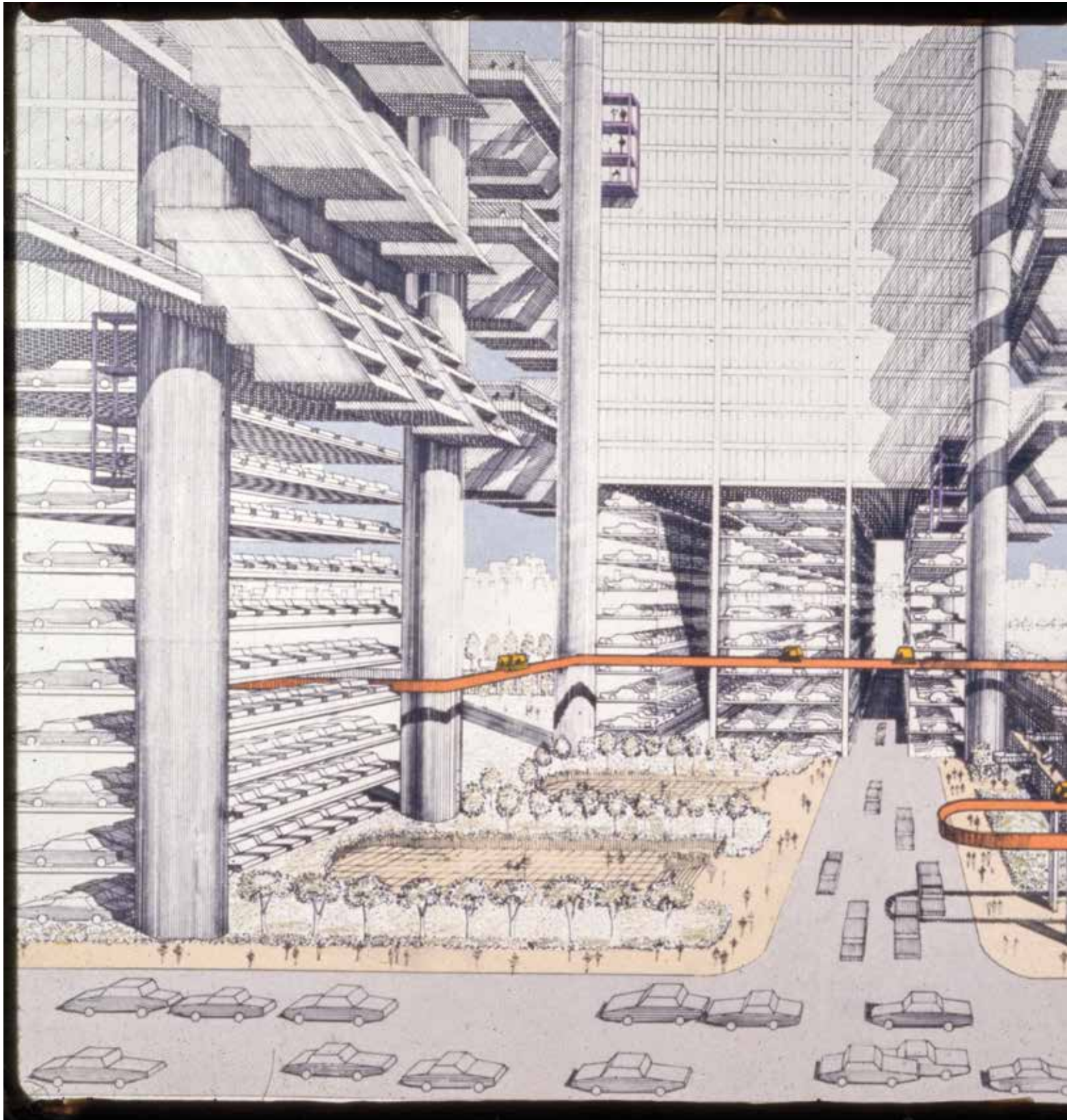
century bricks” suspended from a central mast. At the time, Rudolph referred to the project as a “city within a city . . . crying out for acceptance today . . . [and] regarded in tomorrow’s world as the obvious solution of urban problems,” adding that he wanted to give all residents “not just a balcony but a full back yard, even if it is a back yard in the sky.” The project never left the drafting board, ironically, due

to objections by building-trade unions whose members feared that the industrialized production methods would be too efficient and take valuable work away from them.

Rudolph’s Lower Manhattan Expressway (LOMEX) project (1967), also known as the City Corridor, was an even larger and much more controversial megastructure proposal.

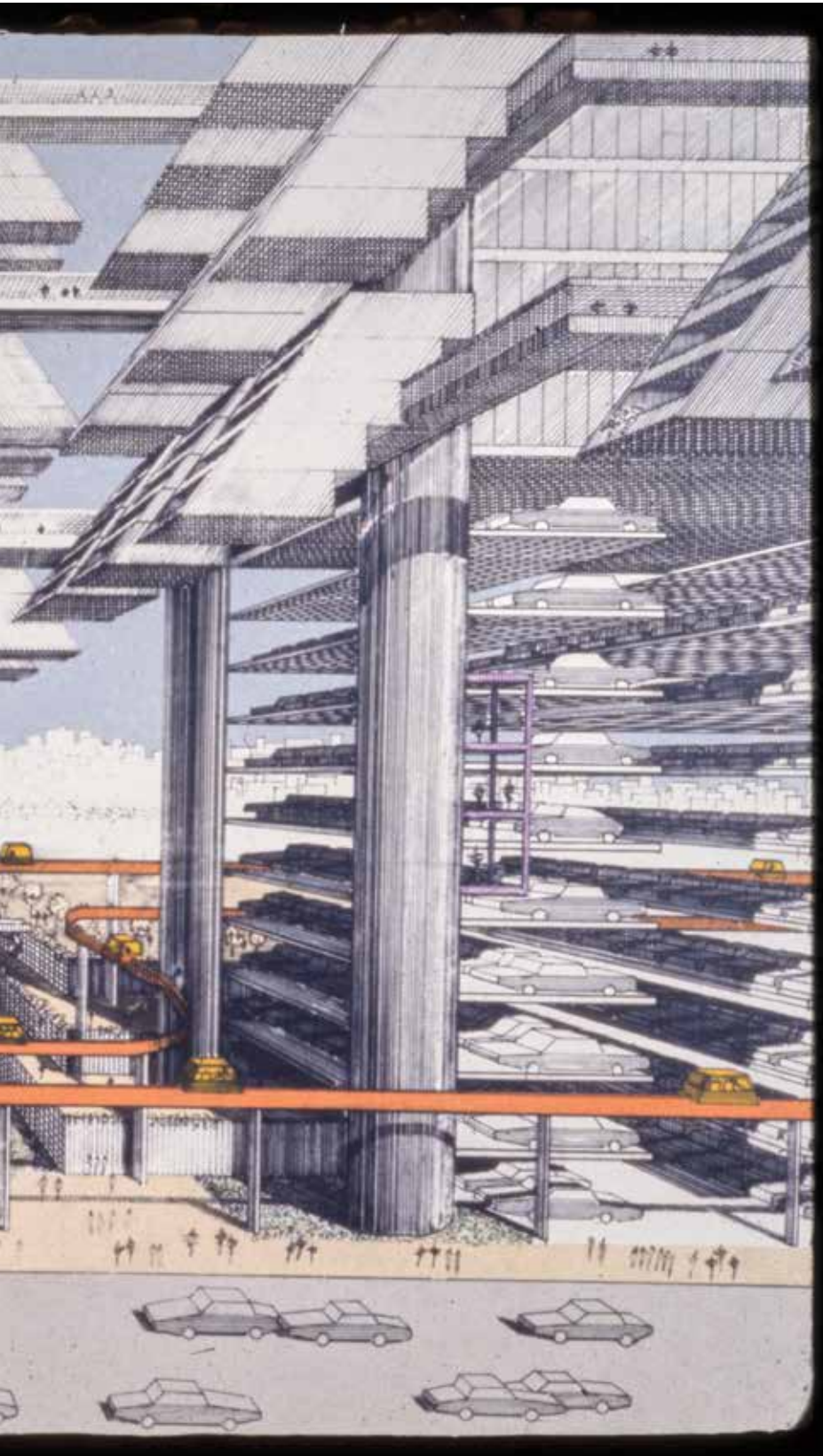
Commissioned by the Ford

**Figure 1—**Graphic Arts Center (1967). A megastructure in New York City, combining residential towers, offices, schools, restaurants, and industrial spaces.



**Figure 2—**  
Lower  
Manhattan  
Expressway /  
City Corridor  
(1967).  
A mega-  
structure

integrating  
roadways,  
mass transit,  
and residential  
spaces into  
a two-mile-  
long elevated  
urban spine.



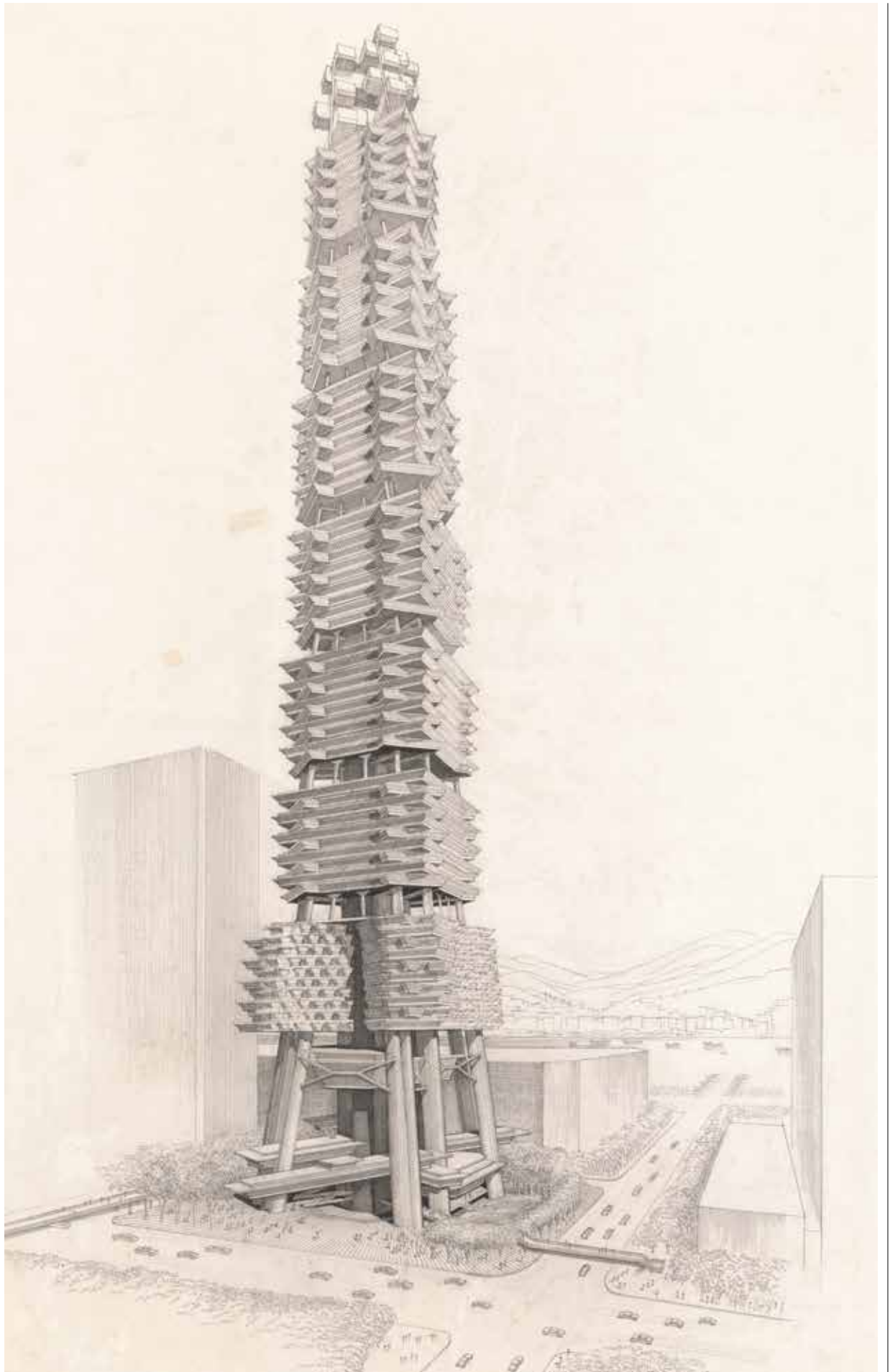
***“Rudolph’s Lower Manhattan Expressway was a response to Robert Moses’s ill-fated earlier Lower Manhattan Expressway.”***

Foundation in response to Robert Moses’s ill-fated earlier Lower Manhattan Expressway project, which had been defeated by activist Jane Jacobs and other civic campaigners, Rudolph’s study concluded, “I don’t think we need an expressway at all. It should be a building two miles long.”

Resembling a concrete mountain range that began at the Holland Tunnel and cut a swath across SoHo before forking over the Lower East Side to meet the Williamsburg and Manhattan Bridges, this conglomeration of elevated roadways, mass transportation, residential towers, and pedestrian walkways would have bisected—and irrevocably altered—much of Lower Manhattan. Reflecting on the proposal more than four decades later, the architecture critic Paul Goldberger found it “seductive, beautiful, exhilarating, and downright frightening,” noting, “I am not sure it is possible to find anyone who regrets that this project never happened.”

The LOMEX project was Rudolph’s attempt to suggest an alternative to simply driving a highway through the city, a plan that would somehow stitch together the transportation spine with the urban fabric so that road and city essentially became one. Of course, the proposal failed to address the destruction of several communities and historic neighborhoods in its path. Rudolph imagined his City Corridor concealing the expressway from view entirely and incorporating not only prefabricated “plugged-in” housing units and parking decks, but also civic amenities such as a monorail system

**Figure 3—**  
Sino Tower,  
Hong Kong  
(1989, unbuilt).  
A competition  
entry for what  
would have  
been the tallest  
skyscraper in  
Asia, featuring  
a crystalline,  
bold form.



and public plazas that would sit on the roof of the buried roadway.

The scheme reflected Rudolph's personal enthusiasm for the "compulsion of the automobile," a concept illustrated by the way he would describe his experience of driving on the FDR Drive along the East River as "an architectural sequence of spaces in the scale of the motor car. You drive in, out, under, and get a kaleidoscopic, broken view in motion . . . and the UN bursts into view. It's all very exciting." Rudolph's highly detailed renderings for the scheme are stunning in their boldness and scope, presenting an otherworldly, even dystopian vision.

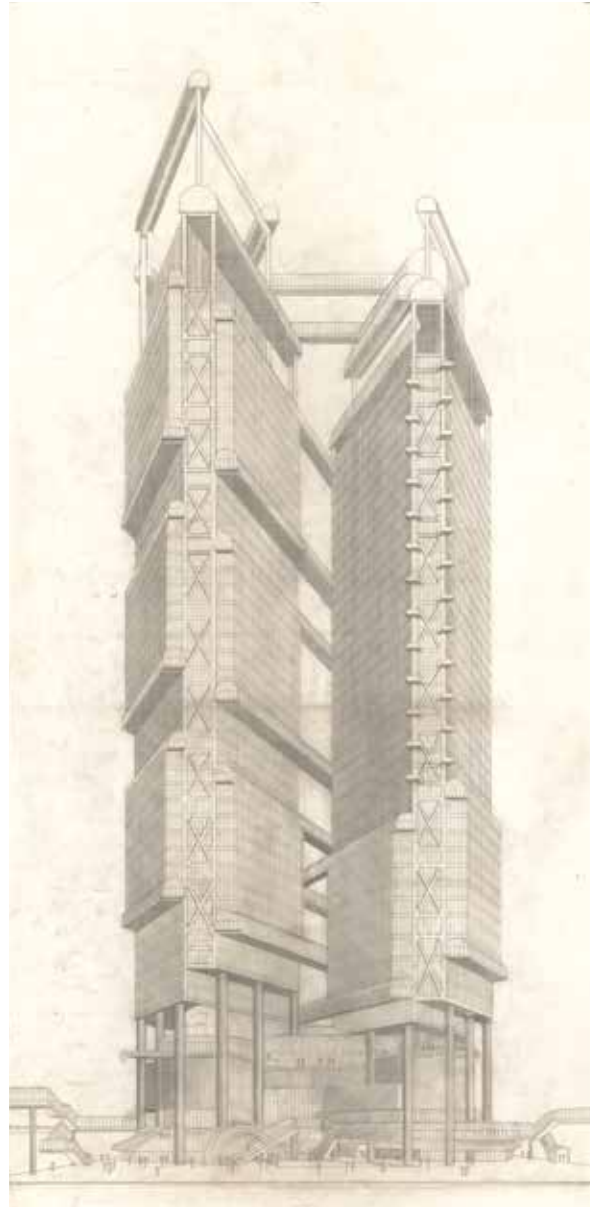
During the 1980s and 1990s, Rudolph was at the vanguard of a group of architects from North America and Europe, including Norman Foster (Rudolph's former student at Yale), I. M. Pei, César Pelli, and Zaha Hadid, who won commissions for large-scale projects and skyscrapers in major Asian cities.

For Rudolph, these new commissions were significant for several reasons. After a relatively fallow period in the 1970s, he was finally poised to make a professional comeback and, perhaps most crucially, the briefs for these projects presented Rudolph with opportunities to return to certain concepts from earlier in his career, which he could finally implement at an appropriate scale and with a sufficient budget, and to fulfill his long-standing desire to work on tall buildings.

In Hong Kong, Rudolph worked on two key projects, the Sino Tower (1989, unbuilt), and the Bond Centre (1984–88). Also known as the Harbour Road Tower, the Sino Tower was an entry in an architectural competition for the Sino Land Company to build the tallest tower in Asia, and it is perhaps the clearest statement of Rudolph's vision for constructing skyscrapers.

Its highly idiosyncratic form rejects both the functionalism of International Style modernism and the historical quotations of

**Figure 4—**  
**Bond Centre**  
**/ Lippo Centre**  
**(1984–88).**  
**A pair of**  
**octagonal**  
**glass towers**  
**in Hong Kong.**



All images  
courtesy of  
the Paul Rudolph  
Archive at  
the Library  
of Congress.

postmodernism, instead presenting a bold, tapering form that evokes the crystalline massing of Rudolph's earlier proposals for prefabricated modular buildings and megastructures. The Bond Centre (now known as the Lippo Tower) consists of two almost identical octagonal glass towers, similar in form to Rudolph's City Center Towers (1978) in Fort Worth, Texas.

The project has probably garnered more international attention than any of his other projects in East Asia, because of its prominent site in a dense downtown location by the Hong Kong harbor front and its proximity to two other important buildings from about the same time: Foster's HSBC Headquarters (1979–86) and Pei's Bank of China Tower (1985–90).

Although the completed building turned out quite different from the early concept drawing, it is interesting to note how this early scheme reveals several expressive engineering details, including external cross-bracing and diagonal skybridges that bring to mind Charles Sheeler's famous 1927 photograph of the Ford Motor Company's River Rouge factory.

Rudolph was inspired by Hong Kong's urban density and complexity, especially its many miles of elevated pedestrian walkways that stitched together the city's buildings and street levels. No doubt this cityscape reminded him of his similar ideas for the Lower Manhattan Expressway/ City Corridor project.

He designed pedestrian skybridges that could connect the Bond Centre to surrounding buildings and the existing system of elevated walkways, creating links that were not only functional and efficient, but also "a means of enhancing the three-dimensional, layered feel of the city."

*This essay is adapted from the catalogue for the exhibition, Materialized Space: The Architecture of Paul Rudolph, which was held at The Metropolitan Museum of Art between 30 September 2024 and 16 March 2025.*

***"Rudolph was inspired by Hong Kong's many miles of elevated pedestrian walkways that stitched together the city's buildings and street levels."***