

## Invisible Tools: Shaping New York City's Skyscrapers

DIETRICH NEUMANN

*Brown University*

As Tirana is experiencing probably the biggest building boom in its history, including the planning and building of a number of high-rise buildings, it seems fitting to find out which lessons can be learned from the city where the building type of the skyscraper originated. New York City hosted the buildings that claimed to be the world's tallest for 66 consecutive years. It began with the Singer Building, followed by the Metropolitan Life, the Woolworth Building and then, of course, after brief interludes from 40 Wall Street and the Chrysler Building, the Empire State Building held the title for 40 years, followed by the World Trade Center. Then the title went to Chicago for 25 years with the Sears (now Willis) Tower, on to Kuala Lumpur with the Petronas Towers and Taipei with Taipei 101 and finally, as we all know, to Dubai.

New York City is also the place where a unique and comprehensive, ever changing legal framework has shaped skyscrapers' forms and urban positions since 1916. That is the year when the Setback Law was introduced as part of the city's Zoning plan. It mandated that floors step back from the cornice height upwards under a certain angle, determined by the width of the street and the particular area of the city, its zone. Imaginary "sky exposure planes" would limit upwards growth, which Hugh Ferriss beautifully illustrated in a sequence of drawings in 1922, as a natural force at work. [Fig. 1, 2]

Forty years later, architects were tired of those forces and limitations and began to experiment with new approaches. The NY building department was open to new ideas, and, from 1956 onwards, under the leadership of developer James Felt, went to work designing a new Zoning Code, certainly influenced by the plans

for Lever House and the Seagram Building which abandoned the setback for simple slabs rising from a plaza in front. [Fig. 3]

The new building code, directed by James Felt, was put in place in 1961 and brought about a few major ideas that are just as influential as the 1916 code with its setback law had been. The code changed the emphasis of the City's urban renewal plans from demolition to preservation and rehabilitation. It secured large, open, flexible office spaces. It contained four important new concepts which replaced the setback code, allowed greater height and open plazas. These concepts were: 1. FAR - Floor Area Ratio, a numeric measure to flexibly control density - a FAR of 1 can be one story building covering the entire plot or a four story building covering 1/4th of it. 2. TDR - Transferable Development Rights - the air space above a building could be sold to a developer, thus guaranteeing access to light in one area, while a developer could employ that purchased cubage on top of a building elsewhere. This has often been used to provide money for upkeep for historic landmarks. 3. POPS - Privately owned Public Spaces - publicly accessible parks or lobbies created by developers in exchange for additional height on a tall building elsewhere<sup>1</sup>. Finally, a regulation intended to give certainty to developers, suggesting that that certain rules could not be challenged. They were "as of right" and did not need a process, no hearings, no applications. The "developers don't need planning permission and they don't need to notify anyone. There was no public review and no community en-

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<sup>1</sup>Jerold S. Kayden, *Privately Owned Public Space: The New York City Experience* (New York: Wiley, 2000).

agement, and yet these buildings will be casting huge shadows across Central Park for years to come and impact all of us.”<sup>2</sup>

Trump Tower on 5th Avenue by Der Scutt (1983) is a good example for this system, as it applied several of the tools that were made available in 1968. By only filling a little more than half its footprint going up on a site that had an FAR of 21.6, it could be almost twice as high. Trump also bought air rights from a neighboring building and provided Privately owned Public Space at the mall’s atrium.<sup>3</sup> [Fig. 4]

The building laws that were introduced between 1961 and 1968 law are still in place, although constantly amended, as will be demonstrated by a few more recent examples from New York City. Despite not housing the world’s tallest building anymore, the city still plays a central role in skyscraper development, and currently holds other world records, such as, at least temporarily, the tallest residential tower in the world, or the world’s slimmest building. On the following pages I will focus on a few examples, first from the development of Hudson Yards, the largest real estate development in the history of the US, and then move on to a number of new skyscrapers south of Central Park, ending with two on Park Avenue.

The area of Hudson Yards had long been looked at by eager developers and by the city, as there was a lot of unused space above the many rail lines. First there were plans for the Olympics of 2012 and the area above the railyards was rezoned but then the bid to host the games was not successful. But the rezoning paved the way for this commercial development. Billionaire developer Steven Ross and his Related Companies put a proposal for a cluster of skyscrapers together, at the end of the linear park of the High Line and with a possible connection to the subway system. [Fig. 5].

At a cost of 25 Billion, the project was meant to add 19 Billion to the city’s GDP (Gross Domestic Product) and it was meant to be instant urbanism - providing housing, work, shopping, restaurants, entertainment all in close vicinity and unique thrills. There are currently seven major components: a mall by Elkus Manfredi, a 58 story tower by Norman Foster, a 51 story tower Kevin Roche & John Dinkeloo in partnership with Kohn Pederson Fox, then a 72 story apartment tower by Skidmore Owings and Merrill, and a 73 story apartment tower, 25 Hudson Yards by Diller, Scofidio and Renfro. The two central pieces are 10 and 30 Hudson Yards, 52 and 103 stories tall. The taller tower sports an observation desk - which puts it in direct competition with Rockefeller Center and the Empire State Building nearby. The so called “Edge” is a triangular space that juts out on the 100th and 101st floor of the building at 1.100 (340m) feet, taller than the Eiffel Tower. It allows visitors to lean outwards against the slanted glass walls and also look straight down through a vertical skylight in the floor.

Diller, Scofidio and Renfro, the architects of the above-mentioned linear park, the High Line, designed a flexible theatre at the bottom of their tower, “the Shed,” which can move in and out to provide different space configurations for events. Finally, a gigantic piece of public art was installed at the center of Hudson Yards, the so called “Vessel” by the

British designer Thomas Heatherwick, consisting of 154 intricately interconnecting flights of stairs -- almost 2500 individual steps and 80 landings. It opened to great fanfare in 2019.

Timing could not have been worse for this development, which had been a risky venture from the start. Covid arrived shortly afterwards, visitor numbers plummeted, several suicides at the vessel led to its closure, and major store tenants left. It is easy to agree on the fact that it would be hard to find a similarly uninspired, predictable and boring set of five new skyscrapers anywhere. There is nothing interesting or characteristic about them - an astonishing fact, given that New York City invented and defined the building type. And, of course, this new part of New York City, in its layout, that defies the traditional block structure could not be more atypical for the city. Critics said: “There is no reason for New Yorkers to go to Hudson Yards”<sup>4</sup> or “Horror on the Hudson: New York’s \$25bn architectural fiasco”<sup>5</sup>

While many critics agreed that that the development would mostly attract tourists and newcomers, economists had other reasons to be concerned. Bridget Fisher Flávia Leite wrote a long report about its economic implications for the New School of Social Research and its Schwartz Center for Economic Policy Analysis<sup>6</sup>. This rather damning report was picked up by the New York Times and its intrepid Critic Michael Kimmelman<sup>7</sup>. He reminded his readers of a recent debate, when Amazon offered to move one of its headquarters to Queens, a part of NY City and asked for a 3 billion tax break in return for the creation of 25000 jobs. It was eventually turned down. But with far less public attention, the city government for more than a decade funneled even more aid to Hudson Yards. In all, the tax breaks and other government assistance for Hudson Yards ended up reaching nearly \$6 billion. He listed additional facts: It cost \$2.4 billion to extend the No. 7 subway line to Hudson Yards. \$1.2 billion was spent on about four acres of parks and open spaces called Hudson Park and Boulevard. The City Council agreed to pay \$359 million in interest payments on bonds when revenue from the development missed projections. Hudson Yards was developed during a time of economic uncertainty,

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<sup>2</sup>Oliver Wainwright, “Super-tall, super-skinny, super-expensive: the ‘pencil towers’ of New York’s super-rich. An extreme concentration of wealth in a city where even the air is for sale has produced a new breed of needle-like tower.” *The Guardian* (February 5, 2019). Online at: <https://www.theguardian.com/cities/2019/feb/05/super-tall-super-skinny-super-expensive-the-pencil-towers-of-new-yorks-super-rich>. Quoted in the article is Telly Mas of the Municipal Art Society.

<sup>3</sup>Samuel Stein, *Capital City. Gentrification and the Real Estate State* (London: Verso, 2019), 139.

<sup>4</sup>Alexandra Schwartz, “Hudson Yards Is the Hotel California of New York” *New Yorker Magazine* (March 23, 2019), 2019

<sup>5</sup>Oliver Wainwright, “Horror on the Hudson: New York’s \$25bn architectural fiasco” *The Guardian* (April 9, 2019). Online at: <https://www.theguardian.com/artanddesign/2019/apr/09/hudson-yards-new-york-25bn-architectural-fiasco>

<sup>6</sup>Bridget Fisher, Flávia Leite, “The Cost of New York City’s Hudson Yards Redevelopment Project” Working Paper No. 2 (The New School. Schwartz Center for Economic Policy Analysis, November 2018).

<sup>7</sup>Michael Kimmelman, “Hudson Yards Is Manhattan’s Biggest, Newest, Slickest Gated Community. Is This the Neighborhood New York Deserves?” *New York Times* (March 14, 2019).

with the mayor at the time, Michael R. Bloomberg, vowing to reclaim an unsightly neighborhood of brick warehouses, factories, tenements and a rail yard. In the end, 90% percent of Hudson Yards' office tenants were transfers from Midtown, lured by lucrative tax breaks that New York politicians had provided to the developers. The project simply shifted economic development from other neighborhoods to Hudson Yards but did not create new net growth. One might call it "corporate welfare" or "socialism for billionaires." However, it did encourage more developers to build their own tall towers nearby. As Kimmelman put it: "Over all, Hudson Yards epitomizes a skin-deep view of architecture as luxury branding. Each building exists to act like a logo for itself. The assortment suggests so many crowded perfume bottles vying for attention in a department store window display. [...] It glorifies a kind of surface spectacle — as if the peak ambitions of city life were consuming luxury goods and enjoying a smooth, seductive, mindless materialism. It gives physical form to a crisis of city leadership, asleep at the wheel through two administrations, and to a pernicious theory of civic welfare that presumes private development is New York's primary goal, the truest measure of urban vitality and health, with money the city's only real currency."

Kimmelman ended with a wonderful comparison to a major development project during the 1980s: "It entailed I entailed not a scintilla of public land, public money, or public oversight. It employed a variety of architects. But one of them, Raymond Hood, was very much in charge." The result was an object lesson in urban design and a landmark of modern art and architecture, a development ingeniously, democratically woven into the fabric of the street grid. At first glance, Rockefeller Center looks unified because of all the masonry construction and Art Deco details. But the real source of its coherence is its plan. From his earliest sketches on, Hood made the center's choreography of massing — the dramatic sequencing of low-, medium- and high-rise buildings — the bedrock of that plan. All these parts work together to create a singular place inseparable from the rest of the city. Hood understood the difference between scale and size — how a site with multiple entrances needs to be orchestrated from many angles, how architecture without urban design is just sculpture, how true art enhances the dignity of a place, and how the success of a neighborhood and its retail businesses come down to what's happening at street level. "Hudson Yards barely acknowledges any of these things." Kimmelman concluded. A second part is currently in the works, on the neighboring parcel, calling for 6.2 million additional square foot for residences (including affordable housing), offices and a kindergarden to 8th grade school. Frank Gehry and Herzog & DeMeuron will be among the architects there. Bjarke Ingles designed and built the so called Spiral nearby the only building of any interest in the entire development, as it gives each floor of this office building an outdoor space with a tree.

But now on to other buildings. While Hudson Yards was being completed, there were other things happening, in particular the thinnest skyscrapers ever built. All of them were more interesting architecturally than anything built at Hudson Yards,

but they came with their own problems. The first was nearly 1,400-foot tower at 432 Park Avenue briefly the tallest residential building in the world, was the pinnacle of New York's luxury condo boom half a decade ago, fueled largely by foreign buyers seeking discretion and big returns. Apparently, its simple and elegant geometric façade was inspired by the work of early Viennese modernist Joseph Hoffman and mid-century modernist sculptor Sol LeWitt. At least to my eyes, it is incredibly elegant, expressing the structure of its Vierendeel trusses and providing great ceiling height and uninterrupted views in all directions. There is no other skyscraper in the world that managed to cast modernist minimalism into such successful terms. [Fig. 6] The tower is a marvel of engineering. It offsets the enormous wind pressure up high with open mechanical floors, whose air currents create a buffer against the onslaught of wind. And, at the top, there is a gigantic "Tuned Mass Damper" a heavy lead cube that slows down the swaying at the top by swaying gently in the opposite direction.

But despite all this care, the clarity of its design and the beauty of its interior, six years later, residents of the exclusive tower are now at odds with the developers, and each other, making clear that even multimillion-dollar price tags do not guarantee problem-free living. The claims are all connected to the building's main selling point: its immense height. The condo board at 432 Park Avenue is suing the developers for construction and design defects that have led to floods, faulty elevators, where some of the upper tenants were stuck for hours, and electrical explosions. People heard creaking, banging and clicking noises in their apartments, swoosh of wind through elevators and a trash chute "that sounds like a bomb" when garbage is tossed. Perhaps understandably, none of the reporting newspapers managed to hide their glee and their Schadenfreude upon the misfortune of the fortunate few up at the top who had paid up to 75 million for their apartments<sup>8</sup>. The problems at 432 Park Avenue don't bode well for other super thin skyscrapers, which have already taken the title of the world's skinniest building from Rafael Vinoly's tower<sup>9</sup>.

Even taller is Central Park Tower by Adrian Smith and Gordon Gill, whose claim to fame are many tall towers the world over, most prominently the Burj Khalifa in Dubai. Central Park Tower came with its own set of challenges. Its design as unremarkable as that at Hudson Yards, but it ended up being so close to another tower, Robert A. M. Stern's 15 Central Park South, which has 50 stories, so that the inhabitants

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<sup>8</sup>See for example: "The Downside to Life in a Supertall Tower: Leaks, Creaks, Breaks" *New York Times* (September 23, 2021); Victoria Bekiempis, "High anxiety: super-rich find supertall skyscraper an uncomfortable perch." *The Guardian*, February 7, 2021 (online at: <https://www.theguardian.com/artanddesign/2021/feb/07/supertall-skyscraper-new-york-432-park-avenue-rich>); David Guzman, "The Risks of Living in This Super-Tall, Ultra-Thin Skyscraper" *The New Yorker* (November 2, 2021); "Residents of troubled Supertall Towers seek \$ 125 million in damages". *Business Times* (September 25, 2021);

<sup>9</sup>Matthew Soules, *Icebergs, Zombies, and the Ultra Thin. Architecture and Capitalism in the Twenty-First Century* (New York City, Princeton Architectural Press, 2021), 169-188.

of the lower floors will have a somewhat limited view of Central Park, while the inhabitants of Stern's tower, will have a somewhat limited view to the skyline further south. In order to avoid this unfortunate fact (which only became obvious when the building was already under way) a wing was cantilevered out over the adjacent Art Student League, whose air rights the developer had already acquired. With 98 stories it is currently the tallest residential tower in the world. [Fig. 7]

The most elegant and fascinating among the new buildings is the one that is just being finished as we speak. The firm SHoP designed 111 West, 57th Street, also known as Steinway Hall, which currently holds the title of the skinniest skyscraper in the world. Its floor to height ratio is an incredible 23. It references the setback law of 1916 and its applications and it also pays homage to the Woolworth Building in its details. While breaking new ground, it also clearly is an homage to the history of the skyscraper in New York City. [Fig. 8]

Let me end with two skyscrapers on Park Avenue, that are not residential, but are being mindful of the history of the skyscraper in New York. Both are by Lord Norman Foster.

The first one is the new headquarters of J. P. Morgan Chase at 270 Park Ave, just starting construction, it is 60 stories tall, and references the setback aesthetic and the aesthetic of earlier skyscrapers and a luminous appearance at night. It replaced a very elegant earlier building at the same address for the same client, an immediate follower of the Seagram Building, similarly conscious of its structure and embracing the new thinking around placement of high rises as a sheer slab rising from a plaza. It was designed by Natalie de Blois at Skidmore Owings and Merrill. Despite many protests it was demolished and is now replaced by a much taller, 60 story building by Norman Foster. The site was complicated due to subway tunnels underneath, which led to diagonal supports at the ground. The client bought the air rights above nearby St. Bartholomews Church on Park Avenue to achieve the needed height. There are references to the setback aesthetic and the luminous crown that many skyscrapers had in the 1920s. A sheer Miesian slab was replaced by the aesthetic that that slab had originally set out to replace. [Fig. 9]

Many observers' favorite among the recent new skyscrapers is 425 Park Ave. by Norman Foster. It deliberately embraces the setback aesthetics and its lobby directly refers back to the Seagram Building. The luminous spire refers to luminous Art Deco Spires and an "Architecture of the Night" that came with that territory in the 1930s. [Fig. 10]

These elegant new towers stand in the long tradition of the New York City skyscraper, and they make a convincing case that good design honors its context as deeply as possible. Both the legal frameworks that formed them and the romantic enthusiasm they inspired are clearly evoked here. These buildings make the most sense right there, in New York City. For Tirana, similar formulas should be found, that would help to make any skyscraper a true product of its legal, functional and aesthetic context.



**Figure 1.** Setback Law, Illustrated by Hugh Ferriss, (1922), © Public Domain



**Figure 2.** Chrysler Building and Midtown Manhattan, Samuel Gottscho, (1932), © Library of Congress



**Figure 3.** New York City Seagram Building, Ludwig Mies van der Rohe (1958), © CC Ken OHYAMA



**Figure 4.** New York City, Trump Tower, Der Scutt (1983), © CC Jorge Láscar



**Figure 5.** New York City, Hudson Yards (2020), © CC Rhododendrites



**Figure 6.** New York City, 432 Park Ave., Rafael Vinoly (2018), © CC Epistola8



**Figure 7.** New York City, Central Park Tower (2022), Adrian Smith and Gordon Gill, © CC Percival Kestreltail



**Figure 8.** New York City, Steinway Tower 111 W 57th Street, SHoP (2022), © CC Kidfly182



**Figure 9.** New York City, J. Morgan Chase Park Avenue, (2024), © CC CrossingLights



**Figure 10.** New York City, 425 Park Avenue, Norman Foster (2022), © CC DXVWFR