
Skyscraper Zoning

New York's Pioneering Role

Marc A. Weiss

Since the 1960s many cities have introduced new forms of downtown zoning to influence the design and amenities of large-scale development projects. These increasingly complex public strategies for regulating skyscrapers follow a tradition established by New York City's 1916 and 1961 zoning laws. The landmark 1916 law devised a compromise solution to the problem of real estate conflicts over the height and bulk of buildings in commercial districts by permitting tall buildings if they preserved a certain amount of light, air, and "open space in the sky." Zoning prescriptions for setbacks and towers generated a new style in skyscraper architecture. In the 1920s many cities adopted the New York setback formula instead of flat building height restrictions that would limit skyscraper development. New York's 1961 law shifted the focus to plazas and open space at ground level with a system of floor-area ratios and density bonuses. Again many municipalities enacted New York-style incentive zoning. New York City's innovative approaches have served as national models for mitigating the impacts of skyscrapers.

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In the 1980s many urban central business districts experienced significant building booms. In response to this new generation of skyscrapers city governments took a more active and sophisticated approach to downtown zoning. Special districts, density bonuses, incentive zoning, negotiated development, linkage, and a variety of other techniques and forms of intervention proliferated (Babcock and Larsen 1990; Lassar 1989; Getzels and Jaffe 1988; Keating 1986; Cook 1980). From Boston and Hartford in the east to San Francisco and Seattle in the west, cities subjected central business district office towers to a greater degree of regulation than ever before. While much of this activity was new and innovative, it also drew on an earlier tradition of land-use controls specifically tailored for downtown commercial areas congested with tall buildings. New York City established this tradition, the Manhattan skyline being the oldest leading symbol of the prominence and problems of urban skyscraper planning and development. As Clifford Weaver and Richard Babcock noted in *City Zoning*: "It is as pointless to talk about special districts without a focus on New York as it would be to discuss the steel industry and ignore Pittsburgh and Chicago" (1979, 125).

New York's 1916 Zoning Compromise

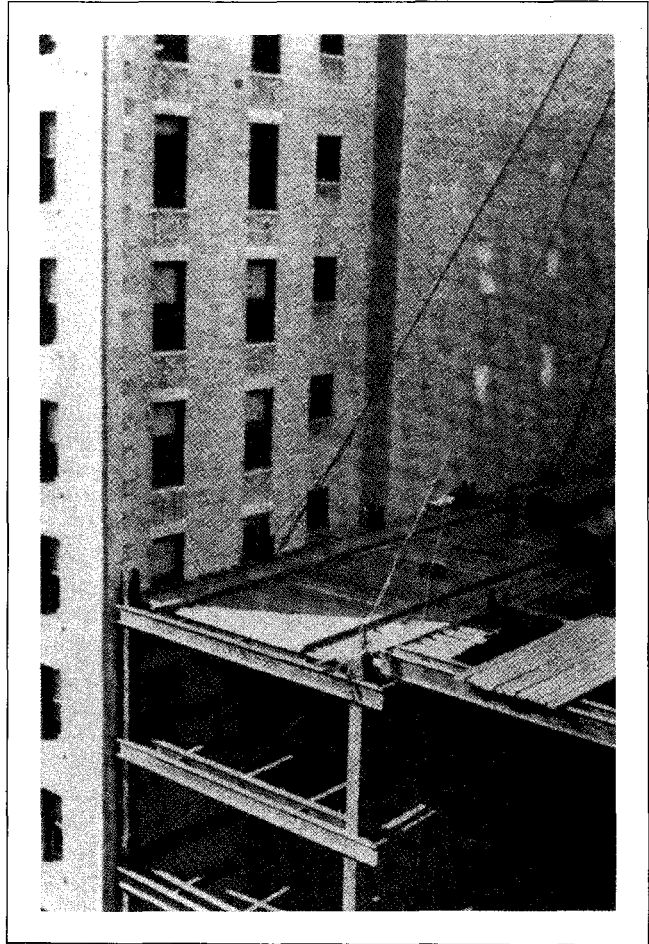
Starting in the 1890s, various urban reformers, architects, good government groups, and civic leaders in New York proposed limitations on the height of buildings, but no single initiative united the disparate interests. The real estate business community was well organized and strongly opposed restrictions. Despite several legislative efforts, the debate dragged on in New York without any tangible results for nearly two decades, while the corporate race for the sky continued with development of the Pulitzer, Flatiron, Times, Singer, Metropolitan Life, and Woolworth buildings. The competitors included many other commercial structures that were neither prominent nor famous, but certainly tall and bulky. The number and size of large commercial buildings in Manhattan steadily increased, blocking sunlight from windows and walkways, eliminating open space on the ground and in the sky, and generating a great deal of congestion in corridors and elevators, sidewalks, streets, and subways (Fenske 1988; Bacon 1986; Stern et al. 1983; Goldberger 1981; Mujica 1929).

Surprisingly, however, in 1913 not all of the key lobbyists for height-limitation zoning were concerned about the growth of corporate office skyscrapers; for some the chief fear was the spread of loft manufacturing buildings (Tobier 1988). One of the driving forces behind the passage of the 1916 zoning resolution was the Fifth Avenue Association, a group of leading retail merchants, hotel operators, property owners, investors, lenders, and real estate brokers trying to stabilize and reinforce the image of Fifth Avenue between 32nd and 59th streets as a high-class shopping district (Makielski 1966; Toll 1969; Kantor

1971). The retail merchants' nemesis was the garment industry, which was steadily moving northward along Fifth Avenue, occupying newly constructed tall loft manufacturing buildings "crowded with their hundreds and thousands of garment workers and operators who swarm down upon the Avenue" (Heights of Buildings Commission 1913, 220). The Fifth Avenue Association argued: "These hordes of factory employees . . . are doing more than any other thing to destroy the exclusiveness of Fifth Avenue," threatening to crowd out the stylish merchants and drive away their fashionable clientele (Heights of Buildings Commission 1913, 269). This powerful group turned to the city for the legal authority to control private property through zoning laws limiting building heights within the district to reduce the number and size of loft manufacturing buildings. Zoning under municipal police power regulations, if properly executed, had the advantage of being compulsory on all property owners without the government having to financially compensate these owners.

If the Fifth Avenue Association could have blocked the rapidly spreading lofts by prohibiting light manufacturing in a commercial zone the association would surely have proposed such intervention. By 1913, however, no city, not even Los Angeles, which had passed the first citywide land-use zoning law in 1908, had attempted to segregate industrial from commercial uses and such restrictions had not yet been legally validated (Weiss 1987). Height restrictions by district had already been declared constitutional by the U.S. Supreme Court in 1909, so the Fifth Avenue Association seized on and vigorously promoted this idea as the means to their salvation. As one of their members testified: "In case the occupancy of the building cannot be regulated either through the factory commission or otherwise, the next best step would be in the limitation of the height of buildings in this zone, thereby diminishing the volume of operatives and making a uniform sky line" (Heights of Buildings Commission 1913, 270). New York City's Board of Estimate and Apportionment established a Heights of Buildings Commission in 1913 at least partly in response to the Fifth Avenue Association's campaign for height regulations.

Fifth Avenue, however, was not really the principal long-term issue. While the Fifth Avenue Association had chosen building height regulation as a method of blocking and redirecting the garment industry's northward expansion, the main demand in 1916 for regulating the height and bulk of commercial buildings through zoning came from private businesses that leased office space, land and building owners, investors, lenders, insurers, developers, contractors, brokers, lawyers, and others involved in the lower Manhattan real estate market. Though these real estate and business groups had opposed commercial height restrictions when they were first suggested in the 1890s they now reluctantly agreed that some form of public regulation was necessary. The 1901 Tenement House Law had imposed height and lot coverage restrictions on multifamily dwellings, but commercial and industrial buildings remained unregulated except by build-



The 1916 Commission on Building Districts and Restrictions used this photo of a new skyscraper blocking the windows of a tall office building to illustrate why New York City needed zoning. Source: Avery Architectural and Fine Arts Library, Columbia University in the City of New York.

ing codes (Lubove 1963; Plunz 1990; Comer 1942; McGoldrick et al. 1944).

The new skyscraper technology had brought much anxiety and uncertainty to the downtown area where many new tall and bulky buildings blocked the sunlight from older and smaller buildings, causing their property values to drop and in some cases even driving away their tenants. Gradually, even the most ardent real estate developers, mortgage lenders, and big business boosters became concerned about the economic and social impacts of too many large and bulky office towers in close proximity. They feared that these buildings, covering most or all of their building lots and rising straight up to considerable heights, would eliminate all the sunlight and views from the major commercial areas. Many entrepreneurs feared that such a situation could destroy both the financial and the aesthetic value of skyscrapers, if the only outside views for occupants of buildings in the central

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business district were the walls and windows of neighboring buildings, if the streets and sidewalks stood in perpetual darkness during daylight hours, and if the overcrowding of commercial structures hid attractive building design features from public appreciation (Commission on Building Districts and Restrictions 1916; Makielski 1966; Toll 1969; Kantor 1971).

This situation is well illustrated in the photos accompanying the 1916 zoning commission report. The tenants in the dark buildings could presumably move to another location, and the owners could possibly build their own tall building. And many did. But no mechanism existed in the private market to ensure that the district would not become strangled by overbuilding and congestion, with each building cutting off the others' sunlight and views, turning the narrow side streets into perpetually dark and impassable canyons. Business leaders finally perceived by 1916 that public regulation was the only viable solution.

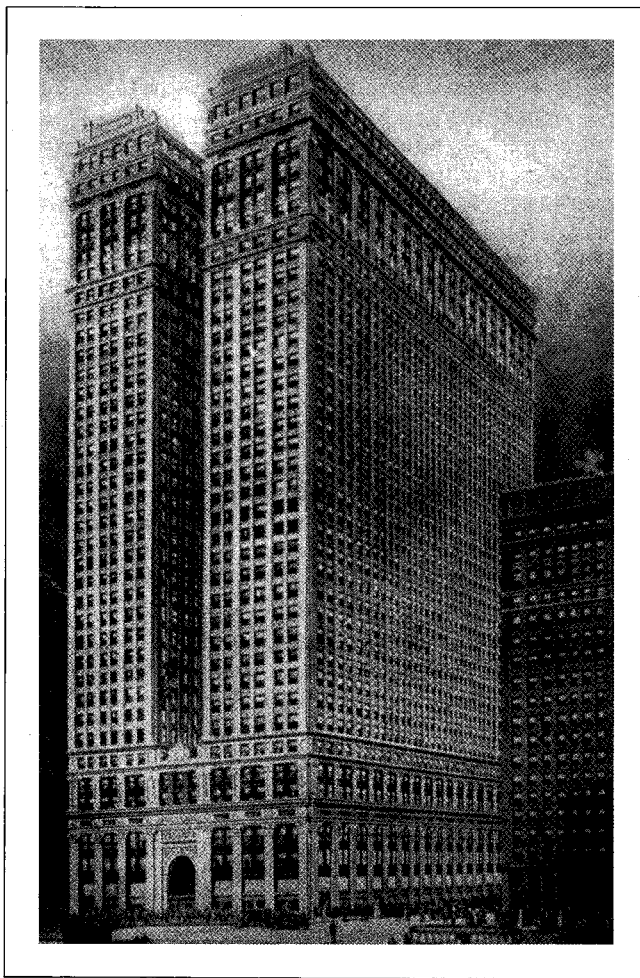
The new Equitable Building in downtown Manhattan demonstrated the difficulty with private control. In 1913 the company revealed plans for a massive new forty-story, 1.4 million square foot structure to replace its nine-story building at 120 Broadway that had burned to the ground. The new structure, which covered an entire city block, would, according to its detractors, "steal" light and views from surrounding buildings. Neighboring tenants and building owners organized to stop the construction through private negotiations with the property's owner, but failed in their efforts (Chicago Real Estate Board 1923, 236-7). Among the organizers was George Mortimer, vice-president of the United States Realty Company, which owned two buildings across the street from 120 Broadway and several other tall buildings nearby. Mortimer, who served on both the 1913 and the 1916 New York zoning commissions, was a strong advocate for the passage of restrictions on the height and bulk of commercial buildings (Toll 1969).

Completed in 1915, the Equitable Building cast its permanent shadow even on bright, sunny days over many of the financial district buildings whose owners had failed to prevent its construction. Lawson Purdy, president of the New York City Department of Taxes and Assessments, testified in 1916 to the Commission on Building Districts and Restrictions:

Since the commencement of the present Equitable Building, a structure about forty stories high, the owners of practically all the property surrounding it have asked for and obtained a reduction of the assessed value of their property on proof of loss of rents due to limitations of light and air and other advantages they enjoyed when the Equitable Building was only nine stories high (1916, 168).

Institutions concerned with long-term real estate market stability and eager to impose building-height regulations included large lenders such as the Metropolitan

Life Insurance Company and the New York Life Insurance Company. Richard Hurd, the president of the Lawyers Mortgage Company, a pillar of the New York business establishment, and the author of the widely admired *Principles of City Land Values* (1903), supported the building height and bulk regulations. Even the Equitable Life Assurance Society, despite or perhaps because of the dispute over its new headquarters, endorsed the proposed zoning resolution. Walter Stabler, the controller of the Metropolitan Life Insurance Company and a member of the 1916 zoning commission, actively encouraged the efforts of the Fifth Avenue Association. Stabler was such a strong advocate for height, bulk, and use restrictions that Edward Bassett, who chaired both the 1913 and 1916 New York zoning commissions and was one of America's most prominent land-use lawyers, dedicated his 1936 book on zoning to Stabler (Bassett 1936). Property, casualty, and fire insurance companies supported the zoning restrictions, arguing they would bring greater



The Equitable Building, opened in 1915, cast a very long shadow over lower Manhattan and helped spark the business community's support for height and area regulations. Source: Carol Willis.

certainty to realty markets and lower the risks of fire and property damage. Title insurance companies, such as the Title Guarantee and Trust Company, also backed the new zoning regulations (Heights of Buildings Commission 1913; Commission on Building Districts and Restrictions 1916; Makielski 1966; Toll 1969; Kantor 1971).

Opponents of tall office buildings argued that higher construction and operating costs and a loss of rentable space due to elevators and reinforcing structures meant that these towers were not as economically profitable as was commonly assumed. However, a driving force behind their continued development and rapid growth in height was the prestige conveyed by the building's visual image, which served as a powerful form of advertising for the corporate owners and occupants. Prestige value and high profile publicity were becoming more important for many large firms, and constructing an elaborate corporate headquarters was an increasingly popular method of publicly displaying a company's growing wealth and power (Gibbs 1984; Domosh 1988).

For example, though the insurance company did not own the Equitable Building (the company was the major tenant—the DuPont family owned the building), the property expressed Equitable's corporate identity both by the name of the building and through the physical presence of the giant structure on New York's skyline. Other tall office buildings at that time, including the Singer Building and the Metropolitan Life Insurance Company headquarters with its dramatic seven-hundred-foot tower, were directly owned by their namesake firms. When Frank Woolworth paid \$13 million in cash to build a nearly eight-hundred-foot office tower that became New York's tallest building in 1913, his general contractor, Louis Horowitz, president of the Thompson-Starrett Company, warned him that the building might be too costly and not yield an acceptable return. According to Horowitz, Frank Woolworth replied that "the Woolworth Building was going to be like a giant signboard to advertise around the world his spreading chain of five-and-ten-cent stores. On that basis, of course, his splendid building was a sound investment" (Horowitz and Sparkes 1937, 2).

New York's skyscraper height and bulk regulations under the 1916 zoning law sought to balance the various commercial and civic concerns. The regulations consisted of three elements, all of which depended on the concept of a "sky exposure plane," calculated as an angle from the center of the street. George Ford and other architects and urban planners based this idea on the European experience with height restrictions and worked it out in New York from 1913 to 1916 through a great deal of negotiation with a variety of interest groups.

First, a building covering its lot lines without any setbacks could rise up to a multiple of the width of the street on which it fronted. Most of the commercial skyscrapers under the 1916 zoning regulations were located in height districts that allowed the base of a building, without setbacks, to be either twice as tall or two and one-half times taller than the street's width. Second, a building was per-

mitted to rise above the limit if it were set back to allow light, air, and open space to reach the lower floors and the street. The required formula for stepping back also varied by height district, with the two and the two and one-half times districts allowing steeper rises for each foot of building setback. Third, a building could have a tower that soared to unlimited heights as long as this portion of the structure covered no more than 25 percent of the lot (Ford 1916). These height restrictions created a whole new style of setback architecture in the 1920s, ranging from the "wedding cake" and "sculptured mountain" images to the graceful towers that became the new symbols of corporate wealth and urban dynamism (Mujica 1929; Willis 1986; Stern et al. 1987). In many cases New York's zoning-based building designs spread faster to other cities than the actual height and bulk provisions of the zoning law.



The Insurance Center Building, designed by Ely Jacques Kahn and completed in 1927, illustrates the "wedding cake" architecture that was spawned by New York's height and setback zoning. Source: Avery Architectural and Fine Arts Library, Columbia University in the City of New York.

The debate that had raged in American cities over height limits of buildings had focused on two essential questions: (1) Should height restrictions be imposed, and (2) at what permitted limit? New York's 1916 zoning law redefined the entire skyscraper issue. Instead of trying to lower building heights, the New York law assumed that tallness per se was not the problem. Planners such as Thomas Adams argued that "the high building in itself cannot be condemned as unhealthful if there is sufficient space around it to give it light and air" (*New York Times* 1926). New York's innovative land-use controls effectively rationalized the process of skyscraper development and facilitated future growth in the number and size of towers.

Since 1916 New York has continued to be the fore-runner of national trends in urban skyscraper zoning. In the 1960s the city government began to adopt and implement numerous innovative techniques for controlling and shaping urban design and development through zoning provisions. During the past three decades New York has introduced a complex array of additional zoning bonuses, regulations, and special districts, most of which deal with skyscraper development. These initiatives attempt to solve the problem of how to permit continued large-scale development in an already congested environment while maintaining some degree of open space in the sky and on the ground, and how to encourage or preserve certain land uses that enhance the quality of urban life.

New York's planners have often been the first to experiment with new aspects of skyscraper zoning regulations, including a wider variety of administrative processes and a greater level of interaction between public regulators and private developers in negotiating building form, public amenities, and urban design standards (Marcus and Groves 1970; Barnett 1974, 1982; Kayden 1978; *New York Affairs* 1985; Whyte 1988; Goldberger 1988; Kwartler 1989; Kennedy and Bernard 1989; Mollenkopf 1989; Sabbagh 1989; Babcock and Larsen 1990). Why has New York pioneered most of the skyscraper zoning innovations that later spread to many other cities? Because only New York has been so burdened and blessed with the number, volume, and density of tall buildings that have long dominated the skyline of downtown and midtown Manhattan (Jackson 1984; Schachtman 1991).

Planning for the Corporate-Commercial Skyscraper City

In many of the large and rapidly growing American cities in the early twentieth century, architects, civil engineers, and landscape architects, often sponsored by downtown corporate and commercial interests, were writing City Beautiful plans. They explicitly designed these plans to establish a central business district of commercial office buildings, department stores, hotels, and other related uses while pushing out factories, warehouses, and wholesale markets. The focus of this urban

redevelopment planning was on public investment in civic centers, parks, parkways, passenger rail terminals, and waterfront facilities. The main purpose was reshaping the physical landscape through public works to generate new patterns of accessibility and movement in the city, showcasing the clean and attractive commercial and cultural city, and attempting to banish the "dirty and ugly" city of industry to working class neighborhoods removed from the central area. The Chicago Commercial Club's 1909 plan by Daniel Burnham and Edward Bennett is a classic of this genre, and many other cities followed a similar path (Burnham and Bennett 1909; Weiss and Metzger 1989). In every City Beautiful effort, from Cleveland to San Francisco, land-use conflicts emerged between the commercial and industrial sectors. In some cities central area planning was more successful than in others (Ford 1917; Kahn 1979; Wilson 1989).

When most American cities were still struggling to assemble a critical mass of tall office buildings, department stores, and hotels to symbolize the modern downtown, Manhattan was already firmly established as one of the world's leading corporate and commercial centers. This fact explains why New York geared its zoning law so heavily toward regulating Manhattan commercial real estate when zoning in most other communities was more concerned with protecting residential property. It also helps explain why in New York key business and real estate development interests generally supported the 1916 height and bulk regulations on commercial buildings after nearly two decades of controversial debate, whereas in other big cities at that time comparable business groups strongly opposed height and bulk regulations in proposed zoning laws. New York was already built to such a great density and volume of large buildings that the corporate-commercial sector turned to public regulation as a necessary measure to facilitate and protect new investment and development so that the city could continue to grow bigger and taller without stagnation or chaos.

A few statistics give a sense of the contrast between New York and the rest of the country during the period in which most American cities established zoning laws. At the end of 1912, Manhattan had 1,510 buildings from nine to seventeen stories high, and 91 buildings between eighteen and fifty-five stories (71 of which were office buildings, with the rest divided between hotels and loft manufacturing buildings). A decade later, during which time new commercial buildings had grown both taller and more numerous, Chicago, the nation's second largest city with a rapidly expanding downtown, had forty buildings eighteen stories or higher, less than one-half of Manhattan's total from ten years before. In Chicago's downtown Loop, where most of the city's high-rise buildings were concentrated, 151 buildings were between nine and seventeen stories, a mere one-tenth of the decade-earlier Manhattan figure (Chicago Real Estate Board 1923; Condit 1964; Saliga et al. 1990). New York not only led the nation in very tall buildings (which in 1912 included a thirty-eight-, forty-one-, fifty-one-, and

a fifty-five-story office building), but the sheer volume of skyscrapers totally overshadowed any other city.

Table 1 displays national data for United States cities in 1929, demonstrating that New York had one-half of all the buildings in America that were ten stories or higher. At the time of this survey New York also had most of the tallest commercial structures, including the Woolworth Building completed in 1913 and the Chrysler Building, which was under construction during 1929 (Heights of Buildings Commission 1913; Chicago Real Estate Board 1923; *American City* 1929; Adams 1931b). New York's tradition of having the world's tallest office building started in the early 1890s and continued through a dizzying succession of various Manhattan towers all the way to 1974, when Chicago's Sears Tower surpassed Manhattan's World Trade Center (Goldberger 1981; Saliga et al. 1990).

Skyscraper Zoning in Other Cities

New York's original zoning politics were unusual not only for the central attention on the issue of building height and bulk in lower and midtown Manhattan, but also because by 1916 the corporate-commercial sector and the real estate industry had generally, though in many cases reluctantly, come around to supporting these restrictions. Indeed, these business groups had helped initiate the establishment of the new public regulations. This contrasts with other American cities where height limitations were either less important than issues of residential use or were more controversial and unpopular with various segments of the downtown business and real estate communities.

Many cities imposed building height limits beginning in the late nineteenth century when the skyscraper first

TABLE 1: Tall buildings in American cities, 1929

City	Buildings 10-20 stories	Buildings 21 stories or more	City	Buildings 10-20 stories	Buildings 21 stories or more
Albany, NY	9	2	Nashville, TN	17	0
Atlanta, GA	17	1	Newark, NJ	18	3
Atlantic City, NJ	21	0	New Haven, CT	5	0
Baltimore, MD	36	4	New Orleans, LA	21	1
Beaumont, TX	5	1	New York, NY	2,291	188
Birmingham, AL	13	1	Oakland, CA	14	1
Boston, MA	102	2	Oklahoma City, OK	20	2
Chicago, IL	384	65	Omaha, NE	9	0
Cincinnati, OH	24	2	Peoria, IL	12	0
Cleveland, OH	40	4	Philadelphia, PA	98	22
Columbus, OH	16	1	Phoenix, AZ	5	0
Dallas, TX	31	1	Pittsburgh, PA	52	15
Dayton, OH	15	0	Portland, OR	25	0
Denver, CO	9	0	Providence, RI	5	1
Des Moines, IA	14	0	Richmond, VA	20	1
Detroit, MI	102	19	Rochester, NY	12	0
Duluth, MN	5	0	Sacramento, CA	7	0
Fort Worth, TX	11	3	St. Louis, MO	83	3
Galveston, TX	5	0	St. Paul, MN	7	0
Houston, TX	24	5	Salt Lake City, UT	10	0
Indianapolis, IN	23	0	San Antonio, TX	21	3
Jacksonville, FL	14	0	San Diego, CA	8	0
Jersey City, NJ	16	0	San Francisco, CA	45	8
Johnstown, PA	5	0	Seattle, WA	41	2
Kalamazoo, MI	5	0	Springfield, IL	5	0
Kansas City, MO	60	2	Stockton, CA	6	0
Knoxville, TN	6	0	Syracuse, NY	4	1
Little Rock, AR	6	0	Tacoma, WA	6	0
Long Beach, CA	14	0	Tampa, FL	11	0
Los Angeles, CA	134	1	Toledo, OH	6	1
Louisville, KY	17	0	Tulsa, OK	37	2
Memphis, TN	23	1	Washington, DC	20	0
Miami, FL	25	1	Wheeling, WV	6	0
Milwaukee, WI	15	1	Wichita, KS	14	0
Minneapolis, MN	32	3	Wilkes-Barre, PA	5	0
Montgomery, AL	5	0	Youngstown, OH	5	0

Source: *The American City* 41, 3 (September 1929): 130.

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emerged as a new urban form. In 1893 Chicago, despite its burgeoning skyscraper architecture spearheaded by Daniel Burnham and Louis Sullivan, was one of the first cities to place a flat limitation on building heights. In most cities the legal limits ranged from one hundred to two hundred feet (Heights of Buildings Commission 1913; Chicago Real Estate Board 1923).

By the early 1900s a few cities, most notably Boston and Washington, D.C., introduced differential height limitations by district rather than imposing one limit on the entire city. Other cities, such as Baltimore and Indianapolis, had special restrictions that applied to particular locations. Under this early form of zoning, cities permitted higher structures in the central business district, the only place where land values, transportation accessibility, and corporate image made tall buildings economically feasible or culturally preferable (Heights of Buildings Commission 1913; Chicago Real Estate Board 1923; Power 1984; Holleran and Fogelson 1987).

Much of the early impetus for imposing these restrictions emanated from fears about fire hazards and building safety, concerns about the lack of sunlight and air, aesthetic preferences for the older European city model of smaller buildings of uniform height, and popular desires to avoid excessive urban population density and congestion (Heights of Buildings Commission 1913; Chicago Real Estate Board 1923; Knauss 1931; Ford 1931; Bassett 1936; Neil 1988; Wilson 1989).

In some cities, such as Chicago and San Diego, downtown business and realty interests were initially against proposed height limits, raising the banner of private property rights and asserting that restrictions would impede economic growth and civic progress. Such opposition led to compromises that raised the maximum permitted building heights. Once the limitations were in place, however, many of these same interests acknowledged that the new regulations helped protect the owners of and tenants in smaller buildings, thereby stabilizing investments and markets. During times of real estate recessions, owners of smaller buildings favored height restrictions (Nichols 1923; Hubbard and Hubbard 1929; Toll 1969; Weiss 1991).

The commercial and real estate sectors in a few cities supported height regulations from their inception. Los Angeles imposed a 150-foot building height limit in 1906, following San Francisco's earthquake and fire that same year. Civic leaders of southern California's "Riviera" took this action to reinforce Los Angeles's image of safety and serenity in contrast to more intimidating conceptions of city life in their northern California arch rival (Weiss 1987, 1988). Boston's business elite was content with older traditions of modest building heights, and also wanted smaller buildings to help spread new private construction across land fill in the Back Bay and other areas near the city's center (Holleran and Fogelson 1987).

In Chicago, however, various real estate interest groups fought a long and contentious battle over building height restrictions. In 1892 the mayor vetoed a 150-foot limit, but during the recession one year later he agreed

to a 130-foot limit. By 1902, with a rising real estate market and mounting pressure from the business community, the city raised the height limit to 260 feet. When the market began to turn down in 1911 after a decade of extensive growth, the city lowered the limit to two hundred feet. In 1920 the city raised the limit back to 260 feet, because several years of virtually no new downtown construction during and after World War I led to industry and government's urgent desire to stimulate investment. Finally under the 1923 zoning law the height limit rose to 264 feet (Chicago Real Estate Board 1923).

Chicago's vacillation on height restrictions reflected the serious internal conflicts among various real estate interests, represented by the Commercial Club and the Chicago Real Estate Board. The large corporate Commercial Club was the chief sponsor of the 1909 Plan of Chicago and the nearly \$300 million investment in infrastructure and public works later supervised by the Chicago Plan Commission. The Chicago Real Estate Board took the principal initiative in the early 1920s to promote a zoning ordinance through a separately created body, the Chicago Zoning Commission. As a citywide trade association of realty brokers, the Chicago Real Estate Board was primarily concerned with neighborhood growth, not downtown redevelopment. These realtors also represented the interests of the smaller downtown building owners. In 1923 the Real Estate Board lobbied for *lowering* the height limits under the new zoning ordinance. The Building Owners and Managers Association, which represented the larger builders and investors and corporate owners and tenants, intervened to defeat the height limitation proposal (Nichols 1923; Chicago Real Estate Board 1923; Hughes 1931; Flint 1977).

Local chapters of the National Association of Building Owners and Managers (today known as BOMA International) were very influential in many cities during this period in addition to Chicago. Throughout the 1920s most of these groups strongly opposed urban height limitations, sponsoring and publicizing research studies that argued for the commercial superiority of skyscrapers (Shultz and Simmons 1959; Clark and Kingston 1930; Weiss 1988; U.S. Chamber of Commerce 1927). In Chicago, Philadelphia, Detroit, Cleveland, Pittsburgh, and San Francisco, downtown corporate-commercial and major real estate development and investment interests fought against strict height regulations, often with the local Building Owners and Managers Association a leading organizer of this coalition. In many cases, opposition to regulating building heights held up the passage of an entire zoning ordinance until the city made some kind of accommodation to these interests.

Chicago and Pittsburgh reached compromises by 1923. In San Francisco the Downtown Association and the Building Owners and Managers were able to remove all height limitations from the 1921 law, which only regulated land uses. In Philadelphia, Detroit, and Cleveland opposition from downtown corporations and property owners held up zoning throughout the 1920s. Cleveland

finally passed an ordinance in 1928, but quickly repealed it two months later. Houston never passed a zoning law, though the downtown lobby eventually supported the idea. Real estate brokers and developers in St. Louis and Los Angeles, wanting to build large commercial and residential buildings on wide boulevards restricted to single-family homes, strongly opposed certain zoning efforts. Other cities, including Boston and Washington, D.C., raised their height limits during the 1920s. Atlanta virtually repealed effective height restrictions by increasing its limits in 1929 from 150 feet to 325 feet with no setback requirements (Hubbard and Hubbard 1929; Weiss 1987, 1988; Houston Chamber of Commerce 1946; Flint 1977).

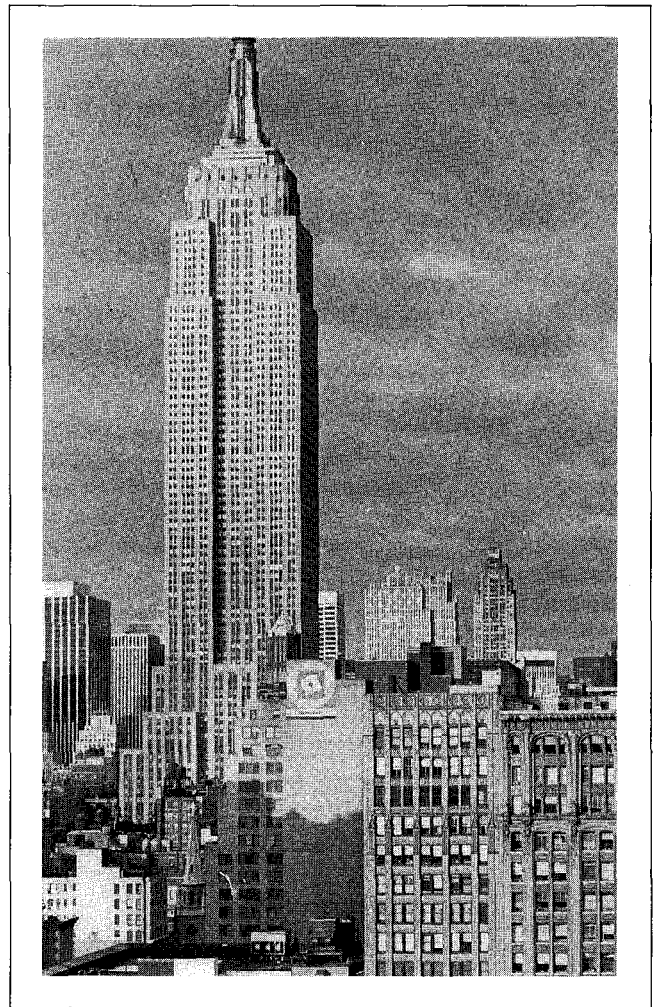
Outside of New York the cities with the greatest disagreements about the public control of private building heights were essentially the cities with the tallest buildings. Chicago, Philadelphia, Detroit, Pittsburgh, San Francisco, Houston, and Cleveland, after New York, were the leading cities with buildings twenty-one stories or higher.

Two factors account for the differences in zoning politics in New York and these other cities. One difference is that New York passed its law during a period of cyclical downturn in the real estate market. The main economic actors saw zoning as a way to stabilize the city's economy, spread out property values, and create incentives for new investment and development. Major corporate and financial interests were strongly motivated to give this new form of government intervention a chance. Speculative operators, who would normally oppose such regulations, were in a weak financial and political position from the real estate recession (Commission on Building Districts and Restrictions 1916, 149-50). By the early 1920s, when New York's example had spread and other big cities proposed zoning, their real estate markets were beginning to boom, and property owners, developers, investors, lenders, builders, brokers, corporate tenants, and other entrepreneurs all wanted to ride the economic upturn without public intervention standing in their way. They wanted to maximize the development potential of their individual parcels while demand was strong. Once the markets collapsed, these businesses once again desired height regulations as a stabilizing factor. This helps explain why Philadelphia, Detroit, and Cleveland waited until the Great Depression before finally imposing zoning restrictions on their cities (Weiss 1991).

The second difference is that New Yorkers struck a complex bargain, establishing a tradition in the city's zoning regulations in permitting and encouraging very large-scale private development while still attempting to accomplish certain important public goals. Under the 1916 zoning resolution, New York pioneered a new form of regulation that combined in one law restrictions on height, bulk, and use. The main issue in lower and midtown Manhattan, aside from the Fifth Avenue merchants' conflict with the garment industry, was that tall and bulky buildings blocked sunlight from neighboring buildings and from the streets. The solution, thus, was to redesign buildings so that they would allow more space between

them and more room for sunlight and open air. This was accomplished through the setback requirements, regulating buildings by volume and by the width of the street and the size of the land parcel rather than by height alone. This approach permitted the development of some very tall buildings in certain districts but also preserved public open air space. The regulations did not prohibit tall buildings per se, just bulky, monolithic ones covering the entire lot, like the Equitable Building.

The 1916 compromise made possible the construction fifteen years later of the world's tallest structure, the Empire State Building, which was legally zoned to soar over Manhattan because it encompassed a very large lot, fronted on relatively wide streets, and utilized numerous setbacks in the building's design (Willis 1986, 1992; Stern et al. 1987; Adams 1931a, 1931b; Bassett 1931; Ford 1931). Edward Bassett, the attorney who headed both



In 1931 the Regional Plan of New York and Its Environs praised the new Empire State Building as a model skyscraper and a successful application of the zoning laws. Source: Carol Willis.

New York zoning commissions and negotiated the key compromises, described the political outcome of the height and bulk formula in an upbeat 1922 speech to the Chicago Real Estate Board:

The plan in New York is worked out so admirably that you very seldom hear the subject of height referred to. No owner of land in any part of New York City today has any complaint about the question of height. . . . The reason that they seem to be contented is that they have become convinced that there is a relation between street widths and height on the property line, and also because every property owner realizes that after he has gone the allowable height on the street front, he can begin to set back until he goes up a thousand feet if he has land enough, and that acts as a safety valve or amelioration (Chicago Real Estate Board 1923, 126).

Eventually many other big cities adopted similar compromises. It took time to experience the practical effects of New York's zoning regulations, and during the boom of the early and middle 1920s many private business interests preferred not to rock the boat, wanting only traditional commercial structures and familiar government regulations, or no regulations at all. Eventually most commercial architects, builders, investors, lenders, insurers, and corporate tenants and owners began to accept the new postzoning New York model of setback skyscraper development and wanted to import it to their city. By the late 1920s many big cities were changing their zoning laws to adopt "volumetric" controls and the setback system for tall buildings. New York's height and bulk zoning had actually created a popular new aesthetic standard that was beginning to dominate American skylines (Willis 1986; Stern et al. 1987; Mujica 1929; Goldberger 1981; Barnett 1982).

Even conservative Boston, which had regulated building heights since 1890 with a flat and relatively low maximum in the downtown area, changed its zoning law in 1928 to permit pyramid setback towers. Boston was partly responding to pressure from local and national corporations for the city to modernize its image, and to the desires of public officials to attract outside capital and promote new investment in a central business district that was far from booming (Holleran and Fogelson 1987).

During the 1930s and 1940s few changes were made in skyscraper zoning or design and development practices, because downtown office construction was essentially at a standstill. When development did resume in the 1950s and 1960s the stage was set for a new era in skyscraper zoning and urban design (Miles et al. 1991; Real Estate Research Corporation 1985; Weiss 1991).

The Second Generation of Skyscraper Zoning

As other cities began adopting New York-style height restrictions, New Yorkers were becoming increasingly

disenchanted with their skyscraper zoning. The tremendous building boom of the 1920s substantially increased the number and size of Manhattan skyscrapers, greatly adding to congestion. While zoning may have helped produce a distinctive new architecture, it did little to reduce the level of density and overcrowding or the steadily mounting disappearance of open space on the ground and in the sky. By the late 1920s planners such as Edward Bassett, Thomas Adams, George Ford, Lawson Purdy, and Henry Wright were openly criticizing the 1916 law and advocating stricter regulations that would ensure greater light, air, and open space between buildings. Through organizations such as the Regional Plan Association and the Municipal Art Society, civic reformers examined and debated transportation accessibility, infrastructure adequacy, metropolitan deconcentration, urban design, and other issues that affected skyscraper planning, regulation, and development. The planners initiated a movement to decrease allowable population and building densities through limiting the expansion of skyscraper districts and making more stringent restrictions on the height and bulk of buildings (Adams 1931a, 1931b; Bassett 1931; Ford 1931; Armstrong and Hoyt 1941; Makielski 1966; Gelfand 1985; Weiss 1992).

After three decades of occasionally bitter battles between civic groups and real estate associations, the city passed a comprehensive revision of the zoning resolution in December 1960, which took effect in the new year. The 1961 zoning law reduced the allowable population density from fifty-five million in the 1916 law to twelve million, and replaced the setback requirements with restrictions based on floor area ratios (FAR). These restrictions limited the building's volume of rentable floor space while permitting more flexibility in the shape of the structure. Under the new law the maximum FAR in commercial skyscraper zones was fifteen (fifteen square feet of usable floor space for each square foot of the building's lot), or one-half of the 1915 Equitable Building's FAR of thirty (Makielski 1966; Piven 1962).

To accommodate corporate and real estate groups that desired larger structures the city granted a compromise that allowed a 20 percent density bonus (an FAR of eighteen) for buildings that created a public plaza on a portion of the lot. Also, the law permitted towers covering 40 percent of the lot to rise to unlimited heights, an increase from the previous maximum of 25 percent lot coverage. This was a concession to the demands of corporate building occupants for larger floor plates, as many firms found the floor space in the slender towers of the 1920s too shallow for their needs. Technological improvements in air conditioning, heating, ventilation, and fluorescent interior lighting meant that offices did not have to be so dependent on windows for light and air, and high speed elevators were capable of transporting more people faster to and from the upper floors. The International style in architecture had inspired some of the zoning changes. Two International style corporate headquarters—the Seagram Building and Lever House—built in the 1950s under the old zoning, rise straight up from the ground

without setbacks, covering only 25 percent of the lot and leaving the rest as open space with a plaza at ground level (Krinsky 1988; Goldberger 1981).

Most of the modernist skyscrapers constructed in the 1960s and 1970s under the new restrictions were bigger and bulkier than Seagram and Lever. The new zoning approach spawned a generation of massive glass box skyscrapers surrounded by windswept plazas, best represented by the World Trade Center's imposing twin towers, which claimed the title of the world's tallest buildings for a brief period in the early 1970s (Goldberger 1981). William Whyte observed:

The bonus proved almost embarrassingly successful. Over the next decade, with no exceptions, every developer who put up an office building took advantage of the plaza bonus. Between 1961 and 1973 some 1.1 million square feet of new open space was created that way—more than in all of the other cities of the country combined (Whyte 1988, 233).

A cost-benefit analysis found that the value of the extra rentable building space was worth forty-eight times more to the private developers than the cost of the plazas (Kayden 1978). Soon other cities began to catch up, as New York's system of skyscraper regulation through FAR and density bonuses spread across the country and found its way into many urban zoning laws. During the 1960s and 1970s New York added bonuses and regulations for a variety of additional public amenities from pedestrian arcades to ground level retail space, as well as special districts to encourage specific uses such as theaters and museums, or the preservation of historic buildings (Marcus and Groves 1970; Barnett 1982; *New York Affairs* 1985; Whyte 1988; Kwartler 1989; Kennedy and Bernard 1989; Babcock and Larsen 1990).

Since the 1960s, the Manhattanization of central business districts has been an explicit urban planning and economic development policy goal of many cities, often the primary purpose of large-scale urban redevelopment and renewal projects. Debates about density levels and forms of intervention, and the intensity of the political controversy about downtown commercial development that began in New York are being repeated across urban America. Many cities have initiated new experiments with relatively advanced and complicated skyscraper zoning regulations. During the past decade San Francisco, Boston, Seattle, and other jurisdictions established linkage programs and a wide variety of new downtown zoning regulations that in many cases are increasingly restrictive, complex, and progressive (Miles et al. 1991; Lassar 1989; Getzels and Jaffe 1988; Keating 1986; Real Estate Research Corporation 1985; Cook 1980; Weaver and Babcock 1979). With all these recent changes, the planning debates of the 1990s over how to control and direct downtown development still reflect many of the same controversies that led to the origins of land-use regulations for the modern corporate-commercial metropolis in New York in 1916.

AUTHOR'S NOTE

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