

Landmarks Preservation Commission
September 23, 1980, Designation List 137
LP1127

PERSHING SQUARE VIADUCT (Park Avenue Viaduct), Park Avenue from 40th Street to Grand Central Terminal (42nd Street), Borough of Manhattan.
Built 1917-19; architects Warren & Wetmore.

Landmark Site: The property bounded by a line running eastward parallel with the northern curb line of East 40th Street, a line running northward to the edge of Tax Map Block 1280, Lot 1, parallel with the eastern wall of the viaduct, a line running westward along the edge of Tax Map Block 1280, Lot 1, and a line running southward parallel with the western wall of the viaduct to the point of beginning.

On March 11, 1980, the Landmarks Preservation Commission held a public hearing on the proposed designation as a Landmark of the Pershing Square Viaduct (Park Avenue Viaduct) and the proposed designation of the related Landmark Site (Item No. 9). The hearing had been duly advertised in accordance with the provisions of law. Four witnesses spoke in favor of designation. There were no speakers in opposition to designation.

DESCRIPTION AND ANALYSIS

Located at Park Avenue and 42nd Street, the Pershing Square Viaduct was constructed in 1917-1919. The viaduct extends from 40th Street to Grand Central Terminal at 42nd Street, linking upper and lower Park Avenue by way of elevated drives that make a circuit around the terminal building and descend to ground level at 45th Street. Designed in 1912 by the architectural firm of Warren & Wetmore, the viaduct was conceived as part of the original 1903 plan for the station by the firm of Reed & Stem. It is an integral part of a complex circulation system that was planned for the ultimate convenience of both vehicular and pedestrian traffic. The terminal, the viaduct, and many of the surrounding buildings in the Grand Central zone comprise a carefully related scheme that is the finest example of Beaux-Arts civic planning in New York.

History of the Project

The completion of the Grand Central Terminal project in 1919 marked the culmination of 19th-century railroad development in New York City. The city's first rail line, the New York & Harlem Railroad Company, was incorporated in 1831, operating horse-drawn cars after the company's single locomotive had exploded. The first stretch of railway, which extended from Prince Street to 14th Street along Fourth Avenue, was opened in 1832. A cut through the rocky terrain of Murray Hill was soon completed, and by 1837 a steam locomotive serviced the line between 14th and 125th Streets. The Murray Hill cut was later taken over by the Metropolitan Street Railway for use by its trolleys, and was covered over and converted to a tunnel, known as the Belmont Tunnel. Today that tunnel, traveled by automobiles, connects with the Park Avenue Viaduct at 40th Street.

Railroad service rapidly expanded in New York. The New York and New Haven Railroad opened in 1849, and by 1851 a third line, the Hudson River Railroad, ran trains to Albany. A fourth line, the New York Central Railroad, was established in 1853.

Mounting controversy accompanied the increased number of steam locomotives. The trains, which shared the street with other vehicles and pedestrians, were so dirty, noisy, and dangerous, that their use was banned south of 42nd Street by 1858. By the early 1860s it was evident that complete restructuring of the city's railroad system was essential. The key figure in that process was Commodore Cornelius Vanderbilt (1794-1877), who bought control of the New York & Harlem, the Hudson River, and New York Central Railroads between 1863 and 1867. Vanderbilt consolidated the three as the New York Central & Hudson River Railroad and planned a new terminal located between 42nd and 48th Streets and Madison and Lexington Avenues. The station called the Grand Central Depot, was designed by the architect John B. Smook and built in 1869-71. At that time a new street, Vanderbilt Avenue, was constructed between 42nd and 48th Streets on the west side of the terminal. An enormous train shed and rail yard were located to the north of the station, with tracks running north at street level from 56th Street to 68th Street. From there the tracks passed through an open cut as far as 96th Street, where they continued over an elevated masonry viaduct.

The tracks ran along Fourth Avenue where noise, steam, and flying sparks made conditions horrendous. A Fourth Avenue Improvement Scheme was established in 1872, resulting in the erection of pedestrian and vehicular bridges over the tracks, and the construction of a partially enclosed tunnel between 56th and 96th Streets. At that time, most of the squatters who occupied the area were forced out by building operations.

By 1898, the Depot no longer served the needs of the burgeoning railroad, and alterations were made in 1898 and 1900. However, the original problems -- congestion, the interruption of cross-streets by the tracks, and poor ventilation -- persisted. In 1902, a tragic train collision occurred in the Park Avenue tunnel, resulting in the death of seventeen people. The subsequent public outcry called for the immediate improvement of the rail system by electrification and submersion of the tracks. Plans for such modifications were initiated by the New York Central & Hudson River Railroad's chief engineer, Col. William J. Wilgus (1865-1914), and by Frank J. Sprague (1857-1934), a pioneer in the development of electric trains, then a new frontier of engineering. The country's first electric railway had appeared in Richmond, Virginia, and was installed by Sprague in 1887.

Both men worked on several plans for the remodeling of the existing depot, and a final scheme was accepted by William Newman, the President of the railroad, in 1903. The plan, which called for submerged, electrified tracks, a new terminal, and the use of air rights to develop adjacent real estate, was largely the work of Wilgus. Although he had little formal education, Wilgus had risen rapidly in the professional ranks of engineering. He graduated from Buffalo High School in 1883 and studied two years under Marsden Davey, a Buffalo civil engineer. In 1885, age 20, Wilgus completed a Cornell University correspondence course in drafting, and by 1890 had attained the position of division engineer of the Minnesota and Northwestern Railroad. In 1891-1892 Wilgus was in charge of construction of the Chicago Union Transfer Railway and in 1893 came east to work for the New York & Hudson River Line. By 1899 he was named chief engineer, and in 1907 became vice president of the company.

After the official approval of Wilgus' scheme, an architectural competition was held to determine the design of the new station. Of the four participating firms -- Daniel H. Burnham, McKim, Mead & White, Samuel Huckle, Jr., and Reed & Stem -- the latter was awarded the commission. At that time, the firm of Reed & Stem was collaborating with Wilgus on plans for a Troy, New York, station. Charles A. Reed (1857-1911), a graduate of the Massachusetts Institute of Technology, and Allen H. Stem (1856-1931) who attended the Indianapolis Art School and trained in the office of J.H. Stern, formed a partnership during the mid-1880s in St. Paul, Minnesota. In that city the firm was responsible for the designs of the Civic Auditorium (1907), the Athletic Club, and the St. Paul Hotel. The firm specialized in railroad design and was responsible for more than 100 railroad buildings for major lines such as the Great Northern, Great Western, Northern Pacific, and Michigan Central Railroads. That Charles H. Reed was the brother-in-law of Wilgus may have had something to do with the choice of the firm for the design of the new Grand Central Terminal.

The winning design outlined plans for a 22-story terminal structure, designed in the neo-Renaissance style, with two levels of electrified tracks and the use of a series of ramps instead of stairs. The location of the tracks below grade level would allow the restoration of the cross-town streets from 45th to 55th Streets, previously interrupted by the older, open-air rail line. Wilgus had also stipulated that Park Avenue continue on its north-south route direct through the terminal site. While the plans submitted by the other firms proposed a terminal that would straddle Park Avenue, Reed & Stem devised an ingenious, elevated "circumferential plaza" that wrapped around the exterior of the structure, thus maintaining the unity of the interior design. The terraced drives were to be connected 42nd Street by a viaduct leading from Park Avenue, and would again connect on the north side of the terminal at 45th Street. The Wilgus plan also called for the incorporation of a real estate company to develop the air rights over the tracks. In addition, Wilgus desired to locate a landscaped "court of honor", similar to that of the 1893 Chicago World's Columbian Exposition, along Park Avenue north of the station, a feature that was incorporated into the Reed & Stem plan.

Although construction began in June, 1903, the Reed & Stem scheme was not to be the final design. Later that year, the architectural firm of Warren & Wetmore submitted yet another design for the new terminal. Whitney Warren (1864-1943), the firm's senior partner, was a cousin and close friend of William K. Vanderbilt (1849-1920) who then chairman of the board of the New York Central Company. After graduation from Columbia in 1886, Warren continued his architectural studies at the Paris Ecole des Beaux-Arts until 1894. Upon return to the country, he entered the offices of McKim, Mead & White, where he remained until he established a partnership with Charles Delevan Wetmore (1867-1898). Although Wetmore had graduated from Harvard Law School in 1892, he had also studied architecture and designed three dormitory buildings for the Harvard campus. Wetmore first met his future partner when he consulted with him concerning the design of his own house. Warren, impressed by his client's architectural ability, suggested he leave law practice and become his partner. Apparently, Wetmore was the legal and financial specialist in the firm, while Warren was the principal designer.

Warren & Wetmore's first major commission was the exceptionally fine 1899 Beaux-Arts design for the New York Yacht Club, a designated New York City Landmark. Warren & Wetmore were later responsible for numerous office buildings, banks, hotels, clubhouses, department stores, apartment houses, and private residences, among them the James A. Burden house at 7 East 91st Street (1902-05) and the R. Livingston Beekman house (1902-05) at 854 Fifth Avenue, both designated New York City Landmarks, the New York Central Building (1928), the Biltmore Hotel (1914), the Commodore Hotel (1919), and the Bonwit Teller Store (1930).

The firm's reputation was not solidly established, however, until Warren & Wetmore secured the Grand Central Commission in 1903. Warren evidently took his plans for the terminal directly to Vanderbilt, who was pleased with the new design, although it was antithetical to that of Reed & Stem. Vanderbilt convinced the two firms to collaborate, and the result was the formation of the Associated Architects of Grand Central Terminal, with Reed named as executive head.

Construction came to a temporary halt while plans were repeatedly revised. Warren & Wetmore's original plan eliminated the elevated driveways, ramp system, and revenue-producing spaces of Reed & Stem's design. By 1909, most of those features were revived, but the structure, designed largely by Warren & Wetmore, was a low, monumental terminal rather than the original skyscraper envisioned by Reed & Stem. Provisions were made, however, for the possible addition of upper stories at a later date. This plan, the combined effort of both firms, was at last carried out, and the terminal was opened to the public in 1913.

Grand Central Terminal was conceived as the core structure of a group of buildings to be developed in the immediate vicinity of the station, which interrupted Park Avenue between 42nd and 45th Streets. These buildings, many taking advantage of the space above the tracks, were intentionally designed with a harmonious scale and height. Several were connected to the main terminal by bridges. When the station opened in 1913, the Grand Central Place, the U.S. Post Office, and the terminal office building had already been constructed over the tracks. The Biltmore Hotel, designed by Warren & Wetmore, was completed in 1914, surmounting the lower-level, incoming station. Between 1916 and 1918 apartment buildings were erected over the tracks between 47th and 48th Streets and 50th and 53rd Streets. The Commodore Hotel, connecting directly with the main terminal was completed in 1919.

The Viaduct

The Park Avenue viaduct is located on Park Avenue between 40th and 42nd Streets in an area known as Pershing Square. Until 1885, the site was transversed diagonally by Low's Lane, or Steuben Street, named after General Baron von Steuben of Revolutionary War fame. In 1914 the Grand Union Hotel, built on the southeast corner of 42nd Street and Park Avenue in 1883, was demolished and the site purchased by the City of New York to facilitate construction of the Lexington Avenue subway. Plans were publicized in 1919 to create an open plaza on the rectangular plot, named in honor of General John J. Pershing. A national hero, Pershing (1860-1948) pursued a distinguished career in the U.S. Army for more than 60 years. In 1916 he led 12,000 men into Mexico on an expedition to capture Pancho Villa. Pershing was Commander in Chief of the American Expeditionary Force in World War I, and upon his return to America in 1919, was named General of the Armies, the highest achievable rank in the United States Army. A genius for organization, Pershing was instrumental in shaping the nation's defense program, and remained active in army life until his death in 1948.

In 1920, Pershing Square was sold to a development company that constructed an office building called the Pershing Square Building on the site at 100 East 42nd Street in 1923. Today, Pershing Square refers to the area occupied by the Park Avenue Viaduct, immediately adjacent to the original square.

Although plans for a viaduct were included in the original Reed & Stem scheme for Grand Central Terminal, construction did not begin until 1917, four years after the station was opened to the public. Prior to completion of the viaduct, traffic was routed around the terminal by way of Vanderbilt Avenue on the west, and Depew Place, originally a private street, on the east.

The final design of the viaduct was executed in 1912 by the firm of Warren & Wetmore. Completion of the bridge in 1919 marked the opening of an important connector establishing Park Avenue as a continuous north/south thoroughfare. The viaduct, which begins at 40th Street at the opening of the Belmont Tunnel, ascends on a gradual incline over 41st and 42nd Streets joining the upper story of the station building on the south facade, directly above the main entrance. Traffic runs around the building on terraced drives and meets at street level at 45th Street, tunneling under the New York Central Building (1928), and continuing up Park Avenue. The eastern drive was originally reserved for the use of baggage and mail vans, while public traffic traveled on the western roadway. This plan effectively eliminated the vehicular congestion that had characterized the old terminal. Heavy cross-town traffic passes under the viaduct on 42nd Street.

The viaduct was designed as an essential component of the terminal's circulation system. It is an important part of the design of the station itself, and reflects the comprehensive nature of Beaux Arts design and planning. The influence of the Ecole des Beaux-Arts, established in Paris in 1816, and the "Beaux Arts Style" was widespread in America at the turn of the 20th century. Many Beaux-Arts principles and planning techniques had impact in America. Most influential, perhaps, was the monumental classicism that characterized the architecture and plan of the 1893 World's Columbian Exposition in Chicago. The exposition demonstrated for the first time in the United States the powerful effect of monumental scale, axial planning and a clearly defined system of circulation. The overall design of Grand Central Terminal, the connecting viaduct, and the neighboring buildings is a superb example of these principles.

Characteristic of Beaux-Arts design, each part of the terminal scheme is related to the whole. The station, both a literal and allegorical gateway to the city, occupies an important axial location on Park Avenue, and although somewhat overshadowed by the Pan Am building, is the focal point from the south of this wide boulevard. A clearly-defined axis directed toward such a fixed point is characteristic of Beaux-Arts planning. The viaduct approach to the terminal emphasizes the station's prominent position at the junction of Park Avenue and 42nd Street. The elevated roadways are a clear reflection of the analytical approach of the Beaux-Arts school to problems of circulation.

The design of the viaduct itself is French in character, with its low, broad spanning arches and substantial supporting piers. Almost 600 feet long, the viaduct was designed with three arches separated by granite piers. A granite-faced ramp crowned by stone balustrades serves as the approach to the viaduct between 40th and 41st Streets. The piers, which flank the central arch on both sides of the bridge are marked by central projections ornamented with a wide, carved foliate frieze. Each pier is crowned by an exceptionally handsome iron lamp post, an element that also appears on the elevated roadways around the terminal. The arch spandrels are sheathed with panels of sheet metal and distinguished by an iron railing composed

of plain and foliate panels. A section of this railing on the west side of the 42nd Street arch had been replaced by metal bars. Plaques marked with the words "Pershing Square" crown each arch on both sides of the bridge.

Originally, all three arches of the Pershing Square Viaduct were left open, with the trusses exposed, and at one time a trolley line ran underneath. The central arch was enclosed by a steel and glass brick structure in 1939, when the city opened the New York City Convention and Visitors' Bureau under the central section of the bridge. This structure, fronted by a contemporary glass enclosure on its north side, now serves temporarily as an employment office. A cement block enclosure on the north end of the 41st Street arch and a wire fence on the south end of the arch further alter the original appearance of the viaduct. The iron-clad arches have recently been painted green.

Designed as an integral part of the comprehensive plan for the Grand Central Terminal, the Pershing Square Viaduct is a fine example of Beaux-Arts civil engineering. Its elegant design harmonizes with the Beaux-Arts character of the terminal itself. In addition, the viaduct is an important element on Park Avenue, providing a striking visual approach to one of New York's most beautiful and best-known buildings.

Report prepared by
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FINDINGS AND DESIGNATIONS

On the basis of a careful consideration of the history, the architecture and other features of this building, the Landmarks Preservation Commission finds that the Pershing Square Viaduct (Park Avenue Viaduct) has a special character, special historical and aesthetic interest and value as part of the development, heritage and cultural characteristics of New York City.

The Commission further finds that, among its important qualities, the Pershing Square Viaduct is an integral part of the complex circulation system of Grand Central Terminal; that it is a fine example of Beaux-Arts civil engineering and that its elegant design harmonizes with the Beaux-Arts character of the terminal itself; that the viaduct in conjunction with the terminal and the neighboring buildings is a superb example of the principles of Beaux-Arts planning; and that it was designed in 1912 by the prestigious firm of Warren & Wetmore based on the original 1903 Grand Central Terminal plan of Reed & Stem.

Accordingly, pursuant to the provisions of Chapter 21 (formerly Chapter 63) of the Charter of the City of New York and Chapter 8-A of the Administrative Code of the City of New York, the Landmarks Preservation Commission designates as a Landmark the Pershing Square Viaduct (Park Avenue

Viaduct), Park Avenue from 40th Street to Grand Central Terminal (42nd Street), Borough of Manhattan, and designates the property bounded by a line running eastward parallel with the northern curb line of East 40th Street, a line running northward to the edge of Tax Map Block 1280, Lot 1, parallel with the eastern wall of the viaduct, a line running westward along the edge of Tax Map Block 1280, Lot 1, and a line running southward parallel with the western wall of the viaduct to the point of beginning, Borough of Manhattan, as its Landmark Site.

BIBLIOGRAPHY

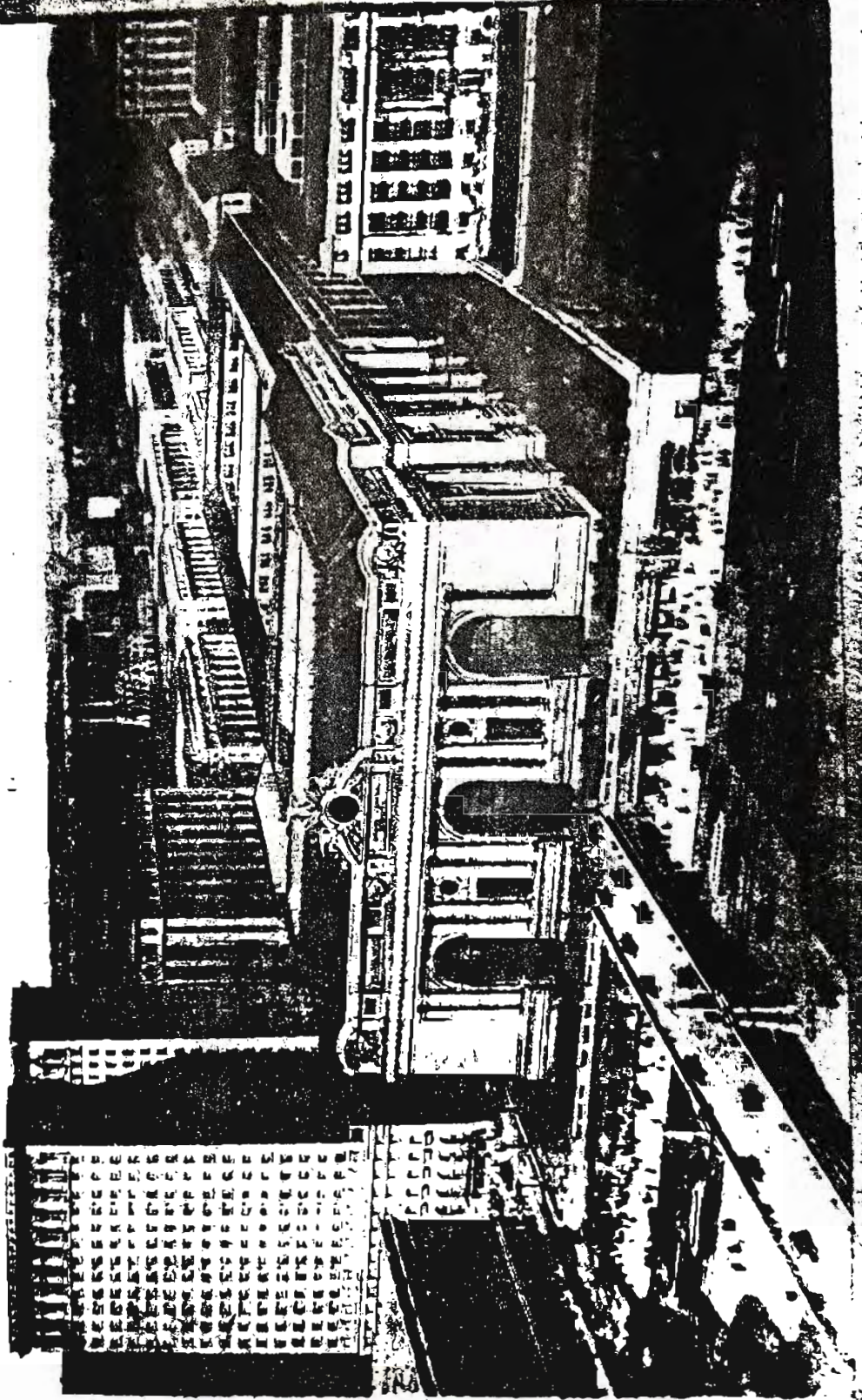
- Amabile, Anna. Grand Central Terminal. Typescript. New York: Landmarks Scholar Program Thesis, Landmarks Preservation Commission, 1975.
- Clary, Martin. Mid-Manhattan. New York: Forty Second Street Owners and Merchants Association, 1929.
- Collins, Francis. The Romance of Park Avenue. New York: Park Avenue Association, 1930.
- Drexler, Arthur, ed. The Architecture of the Ecole des Beaux-Arts. New York: The Museum of Modern Art, 1977.
- Droege, John. Passenger Terminals and Trains. New York: McGraw-Hill Book Co., Inc., 1916.
- Fifty Years on Fifth 1907-1957. New York: The Fifth Avenue Association, 1957.
- Goeschel, Nancy J. Grand Central Terminal Interior. Unpublished Typescript. New York: Landmarks Preservation Commission, 1980.
- "Grand Central Terminal." Architecture, 32 (March 15, 1939), 45-46.
- Landmarks Preservation Commission. Grand Central Terminal Interior Designation Report (LP-1099), report prepared by Nancy J. Goeschel. New York: City of New York, September 23, 1980.
- Marshall, David. Grand Central. New York: McGraw-Hill Book Co., 1946.
- Middleton, William. Grand Central. San Marino, California: Golden West Books, 1977.
- Morris, Lloyd. Incredible New York 1850-1950. New York: Random House, 1951.
- New York Times. Obituary, John J. Pershing, July 16, 1948.
- "Plan to Create a New Public Square on East 42nd Street." New York Times, Feb. 9, 1919, p. 12.

Pope, Robert. "Grand Central Terminal Station, New York." The Town Planning Review of the University of Liverpool, 2 (April 1911), 55-64.

Scully, Vincent, Jr. "The Death of a Street." Perspecta: The Yale Architectural Journal, 8 (1963), 91-96.

Withey, H.F. and E.R. Biographical Dictionary of American Architects (Deceased). Los Angeles: Hennessey & Ingalls, 1970.

Wolfe, Gerard. New York: A Guide to the Metropolis. New York: New York University Press, 1975.



PERSHING SQUARE VIADUCT
Built 1917-19

Architects:
Warren & Wetmore

Photo Credit:
Museum of the City of New York

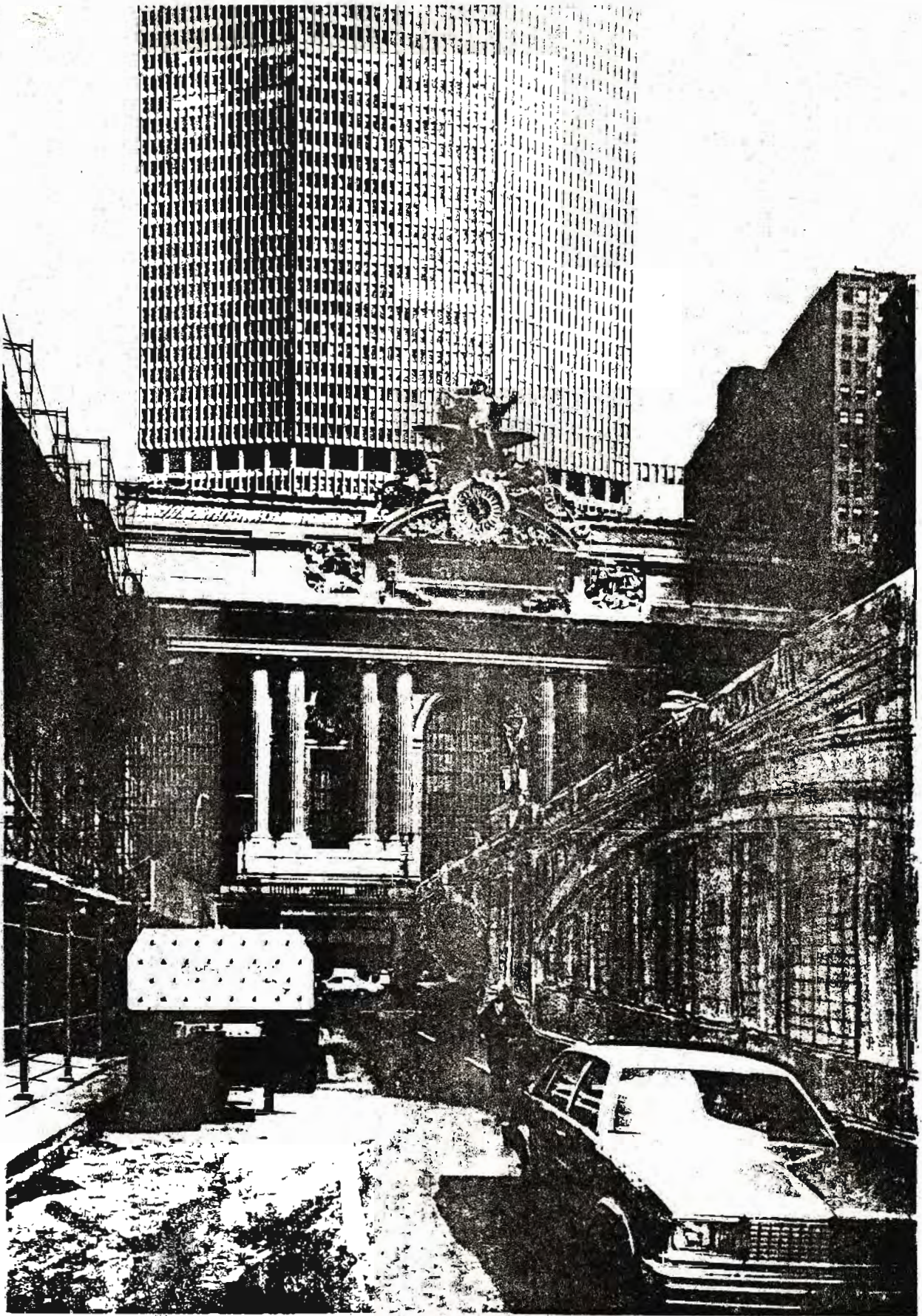


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