



## Big Span, Big Fun: The Atlantic City Convention Hall

**B**EFORE LAS VEGAS, there was Atlantic City, New Jersey—a symbol of American extravagance and pleasure and one of the country’s great resort destinations.

Atlantic City invented many of the features we associate with seaside resort towns, according to historian James H. Charleton, including the boardwalk, in 1870; and the amusement pier, in 1882.

At the heart of the Atlantic City boardwalk, the long pedestrian promenade that knitted the young city together with its shoreline, stood the massive, 650 by 350 ft Atlantic City Convention Hall (now known as Boardwalk Hall), and at its heart was an enormous auditorium known as the Great Hall. At the time of the building’s completion in 1929 it was “the largest room with an unobstructed view in the history of architecture,” according to the nomination form for its listing in the National Register of Historic Places, written by Charleton in 1985.

Many prominent long-span structures had been built in the United States in the late 19th and early 20th centuries, including the Reading Terminal in Philadelphia (with a clear span of 268 ft and a clear height of 90 ft) and Union Station in Washington, D.C. (with a clear span of 125 ft and a clear

height of 96 ft). Atlantic City’s cavernous main hall outclassed them all, with a clear span of 335 ft and a clear height of 131 ft.

“Seldom described or referred to without a string of superlatives, even today the Atlantic City Convention Hall tests the power of words to describe the size of the space and its features,” wrote engineer Michael C. Henry, P.E., AIA, M.ASCE, in a 2009 essay titled “Keeping the Volume Up: Infill and Adaptive Reuse of Atlantic City’s Auditorium,” which appeared in the book *Design and Historic Preservation: The Challenge of Compatibility* (David Ames and Richard Wagner [eds]. Newark, Delaware: University of Delaware Press).

Founded as a resort town in the 1850s, Atlantic City came into its own as a major destination for conventioners and tourists in the early decades of the 20th century. Its boardwalk was lined with opulent hotels, and by the 1920s, the lax enforcement of Prohibition, along with the debut of the Miss America Pageant in 1921, reinforced the perception of the city as a place of excitement and vice.

In fact, the year the convention hall opened, 1929, Atlantic City was the site of a well-publicized confab of mob bosses from New York and the Midwest, including Meyer Lansky,

**Boardwalk Hall, as it is now known, was rehabilitated by Watson & Henry Associates, of Greenwich, New Jersey, to conform to modern safety codes and accommodate 12,000 to 15,000 people. It remains a fixture among Atlantic City, New Jersey, seaside attractions.**



Charles “Lucky” Luciano, and Al Capone. They gathered in Atlantic City to lay the groundwork, according to reporter Derek Harper, for “the nation’s first organized-crime syndicate, a network that crisscrossed the nation and took decades to disentangle,” he wrote in the article “80 Years Ago, the Mob Came to Atlantic City for a Little Strategic Planning” (*Press of Atlantic City*, May 13, 2009).

It was during the mid-1920s, an era of freewheeling ambition, that the city’s mayor, Edward Bader, first proposed a giant convention hall, “when the Atlantic City beachfront was at its peak of popularity,” according to Charleton. Bader wanted to build the largest auditorium in the world and to burnish his city’s reputation as the “World’s Play Ground.” After acquiring land and funding for the project, he turned to Providence, Rhode Island-based Lockwood Greene & Co. to design and engineer the structure. Lockwood Greene, which dated to 1832, was one of the oldest engineering firms in the United States and had expertise in “long-span mill spaces,” Charleton wrote. (The firm also worked on the “super span spaces” of architect Raymond Hood’s McGraw-Hill Building in New York City as well as a variety of auditoriums along the Eastern Seaboard.)

In her 1992 Historic American Buildings Survey report, historian Alison Isenberg described the shell of the \$15-million building as “a Beaux Arts Classical facade, overlaid with Lombardic Romanesque and Assyrian Revival—both styles of which were being rediscovered by architectural historians in the 1920s.” The side of the building facing the ocean and the boardwalk featured an exedra “with the covered curving double row of columns terminated by public bath houses,” wrote Charleton. The street side featured a “2-story, limestone-clad front block...backed by the immense brick-clad arched volume of the main hall. The main building contains the Great Hall, or Auditorium, [a] large ballroom, and smaller public rooms.”

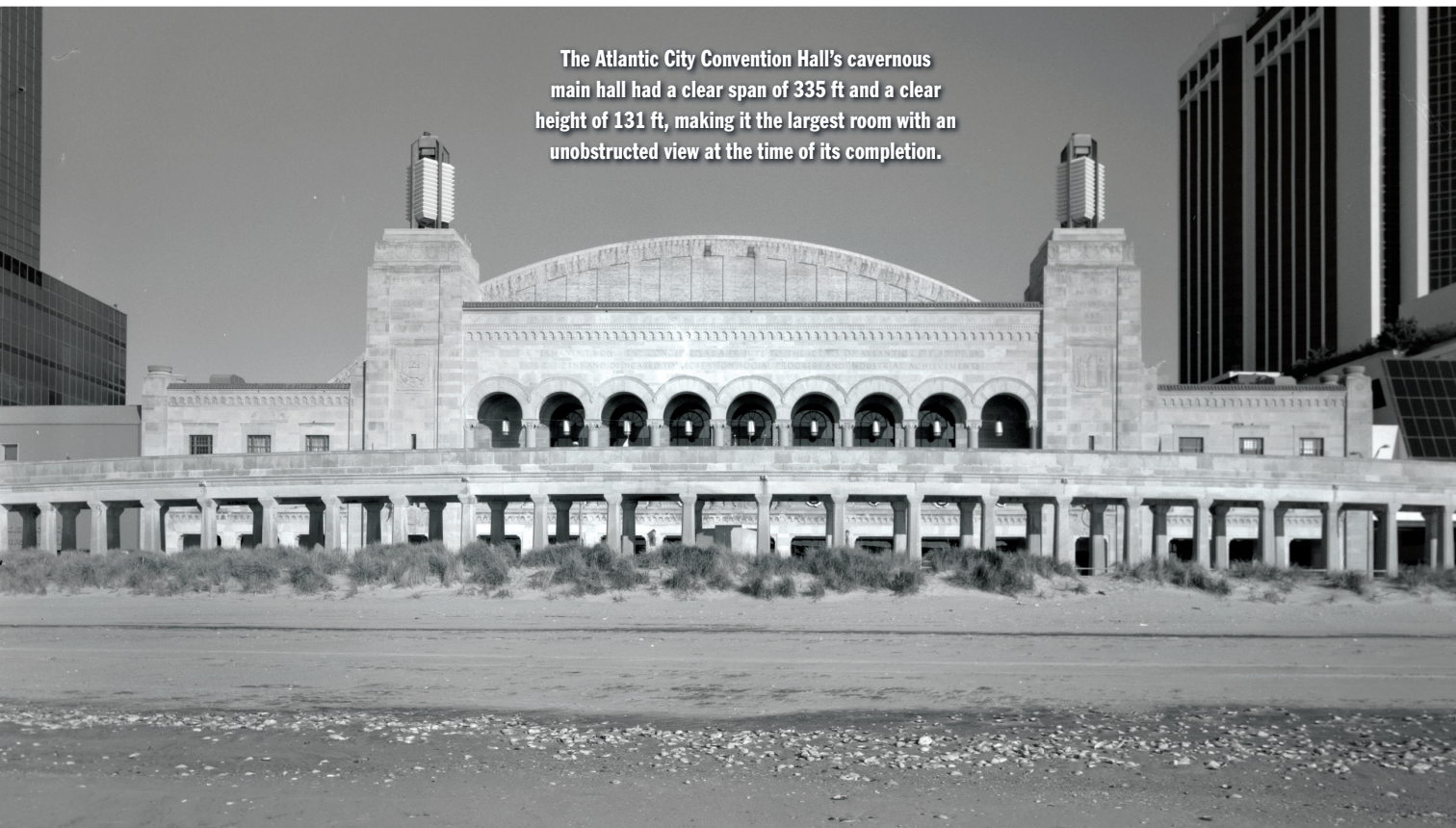
Isenberg described the architectural detailing inlaid in the building’s stonework as “somewhat Mediterranean” and full of ocean motifs, including “stone seahorses, porpoises, shells and crustaceans in the upper surfaces.” In all, the building required 12,000 tons of structural steel and 42,000 cubic yd of concrete, according to the History and Heritage section of ASCE’s website.

Inside, the Great Hall was 456 ft long, 310 ft wide, and 137 ft tall, enclosing more than 5.5 million cubic ft of space. “At the base of the ceiling,” Henry wrote, “a balcony concourse runs along three sides of the building, enclosed by a loggia of tripartite arches set between the trusses.” All told, the giant auditorium covered 7 acres and could fit 40,000 people—30,000 on the floor and another 10,000 in the mezzanine that wrapped three sides of the building.

The room orients toward a massive proscenium, which according to Henry stands more than 100 ft wide and nearly 80 ft high, and “is framed on each side by broad, flat pylons with rusticated joints rising 88 feet.... The proscenium arch spans 104 feet and is 18 feet high.... Centered on the arch is a leaded, backlit glass globe with the letters ‘WPG’ for World’s Play Ground.” Above the proscenium, he wrote, “the barrel vault, ceiling tiles, and loggia recalled the monumental public baths and gymnasias of Rome. Details such as sea monsters, scallop shells, ibis, and sea turtles abounded.”

But most impressive were the supports that allowed for such a commanding space in the first place. Charleton noted in his National Register nomination that the convention hall occupies “a significant place in the history of large-span structures.” To achieve such a vast and open interior, Lockwood Greene utilized enormous three-hinged arched trusses, which were more commonly used to enclose railroad train sheds. The form, Charleton wrote, had previously been used for the Hall of Machinery at the Paris Exhibition of 1888 but never in a public auditorium.

The Atlantic City Convention Hall’s cavernous main hall had a clear span of 335 ft and a clear height of 131 ft, making it the largest room with an unobstructed view at the time of its completion.







According to an April 22, 2015, article in the *Press of Atlantic City*, the 10 pairs of trusses each weighed 220 tons and spanned 350 ft; they were tied to the frame columns to “allow the building to flex with the wind and ground pressure.” According to ASCE, the trusses were 130 ft longer than those typically used in the construction of similarly large buildings of the day (principally armories).

The trusses supported the roof and divided the ceiling into nine recessed bays between the north and south end walls. According to Henry, the building “conceals its structural framework with interior finishes.... The arched box trusses, ceiling bays, and endwalls were originally clad with acoustical tiles made of compressed plant fiber.”

At a distance, Henry continued, “the ceiling tiles suggested the terra-cotta-clad ceiling of a Roman public bath, evoking both monumentality and permanence in the major public assembly space; close-up, the lightweight, face-nailed and field-cut tiles revealed a remarkable absence of careful craft.”

The monumentality of the space was not the only promi-

**The side of the building that faces the ocean is fronted by a portico consisting of two rows, curved in plan, of concrete columns.**

nent feature of the convention hall. As Henry explained, the main hall’s volume was maximized by “the pioneering application” of indirect lighting. To that point, he explained, lightbulbs in buildings were exposed and used as architectural or “almost decorative” features themselves.

“However, in the Auditorium,” he continued, “the designers concealed the lamps behind prismatic glass windows on each side of the trusses, aiming them at the silver-painted ceiling. An electro-mechanical [mechanism] controlled lighting intensity and color, the latter through the synchronized control of colored gel filters in front of the floodlamps.”

The 220,000 sq ft, barrel-vaulted ceiling was covered with acoustic tiles painted silver, which reflected the colorful light shows, anticipating, according to Henry, “today’s laser light entertainment by over sixty years.”

The finishing touch on the central space was the installation of one of the largest pipe organs in the world, containing 33,000 pipes and eight chambers. Charleton’s report notes that the organ was split into two sections, 175 ft apart, in order to create a kind of stereo separation that made listeners feel like they were inside the instrument.

The Great Hall was so large that organ designer Emerson L. Richards had to develop unheard-of specifications. According to the Boardwalk Hall’s website, the organ is the world’s only 64 ft Diaphone and contains 33,114 pipes. It is reported to be the largest musical instrument in the world. (Unfortunately, it has not functioned fully since a 1944 hurricane, but it is being renovated.)

The Atlantic City Convention Hall opened on May 31, 1929, exactly 75 years after the first train reached the city. Thirty thousand people turned out, and the dedication was attended by Vice President Charles Curtis and the ambassadors from Spain and the United Kingdom.

Occurring mere months before the economic crash of 1929, it was a moment of optimism and ebullience. The building’s own facade declared the convention hall “A permanent monument—conceived as a tribute to the ideals of Atlantic City—built by its citizens and dedicated to recreation, social progress, and industrial achievements.”

Isenberg’s report quoted a *New York Times* article from that year that gushed that the convention hall was “magnificent proof of America’s newly found wealth and leisure. It is an iridescent bubble on the surface of our fabulous prosperity.”

Despite the Great Depression and the waning in Atlantic City’s popularity after World War II, the convention hall proved resilient. The first convention the building hosted was for the National Electric Light Association; since then, the hall has welcomed a varied assortment of attractions, includ-





ing a 90 ft by 200 ft ice skating rink, a football field, a polo field, and even a steeplechase course. The hall also hosted competitions of hockey, motorcycle polo, indoor tennis, boxing, and even jousting, not to mention a circus.

According to its website, the building hosted the nation's first indoor college football game in 1930 and also served as a training facility and headquarters for the Army Air Forces during World War II. The Beatles packed the house during their first U.S. tour, and the country's first indoor helicopter flight was made there in 1970.

Most famously, of course, the convention hall became the permanent home to the Miss America Pageant, starting in 1940. In 1964, the venue housed more than 20,000 visitors to the 1964 Democratic National Convention, which nominated Lyndon Johnson as its party's candidate. The political convention required the first major renovation of the building. Charleton wrote that Lockwood Greene was again hired to build a large, one-story exhibition hall connected to their 1929 building.

In 1983, ASCE designated the convention hall a National Historic Civil Engineering Landmark; the building was listed on the National Register of Historic Places as a National Historic Landmark in 1987.

Still, its fate was uncertain by 1997, when Atlantic City opened a modern convention center. By then, the convention hall was in need of major renovation. Henry detailed a slew of problems, ranging from the loss of the original lighting system to cut costs during the Depression to mechanical rooms and exposed ductwork intruding into the building's loggia. But most of the architectural details, he added, remained intact.

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The New Jersey Sports and Exposition Authority hired Philadelphia-based Ewing Cole Cherry Brott Inc. (now EwingCole) to oversee the rehabilitation of the Great Hall; Henry's firm, Watson & Henry Associates, of Greenwich, New Jersey, was subsequently retained as the preservation architect and engineer. Between 1998 and 2001, a \$90-million renovation brought the great building back to life. The renovation called for a "fixed seating bowl with a capacity of 12,000 to 15,000 people," wrote Henry, as well as conformity with modern safety codes and improved rigging, concession areas, restrooms, and back-of-house spaces. To accommodate a new seating bowl, the main hall's original balcony was removed. "The top of the bowl connects to the historic building along the side balcony concourse and loggia," Henry wrote.

On October 11, 2001, the convention hall was rechristened Boardwalk Hall in a ceremony that both opened the building and commemorated the terrorist attacks that had taken place one month earlier.

Charleton noted more than 30 years ago that much of the vintage Atlantic City was already gone. "The storied amusement piers have been destroyed or modified beyond recognition," he wrote. "The leading hotels from early in the century have been demolished." Given how much the city has changed since its heyday, the survival of the convention hall and its swaggering main space is cause for celebration.

—T.R. WITCHER



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