

# PRESERVING GRAND CENTRAL: HISTORY IN THE REMAKING

By Arthur Schurr

History does not always repeat itself. Consider New York City's Pennsylvania Station. A venerated architectural masterpiece – designed by McKim, Mead & White – its revered status was not enough to save it from the wrecking ball. But during the 1960s, preserving landmarks was not exactly at the top of everyone's list.

Penn Station, however, was not lost in vain. By galvanizing the preservation movement, the loss of Penn Station helped save New York City's other transit landmark. Because around that same time, Grand Central Terminal was under a similar threat. The terminal's owners, the Penn Central Railway

Corporation, wanted to erect a 55-story office tower above it to generate income.

Built in 1913, Grand Central is considered a Beaux-Arts masterpiece. A steel-frame structure faced with Indiana limestone and adorned with noted sculptural elements, the terminal has an aura of beauty and majesty. However, Grand Central's value to its community doesn't stop at the aesthetic.

Even though it was designated as a landmark by the New York City Landmarks Preservation Committee in 1967, Penn Central still maintained that as the building's owner it had the right to construct an office tower. In fact, the company sued for that right, taking the case all the way to the U.S. Supreme Court. In *Penn Central*

*Transportation Co. v. City of New York*, Justice William J. Brennan, Jr., wrote an opinion in favor of New York City that gave new teeth to preservation laws and the preservation movement. Grand Central was saved. According to the Landmarks Preservation Committee, any other decision would have desecrated an irreplaceable element of New York City history.

"To protect a Landmark, one does not tear it down. To perpetuate its architectural features, one does not strip them off. . . . [We have] no fixed rule against making additions to designated buildings—it all depends on how they are done. . . . But to balance a 55-story office tower above a flamboyant Beaux-Arts facade seems nothing more than an



The Indiana limestone facade of Grand Central undergoes necessary fortification.

aesthetic joke. Quite simply, the tower would overwhelm the Terminal by its sheer mass. The ‘addition’ would be four times as high as the existing structure and would reduce the Landmark itself to the status of a curiosity.”

With that as historical backdrop, today Grand Central Terminal still serves a vital function for New York City. And aside from its value as an essential transportation hub, the terminal has more visitors today than any other landmark in New York. In fact, 500,000 people arrive at the terminal every day. In a city that seems forever fraying, Grand Central stands solid, strong, enduring—except for one little problem: time had taken its toll on the terminal’s façade. With the interior having been completely restored in 1998, it was time to turn attention to GCT’s exterior.

“The exterior envelope of Grand Central Terminal is in critical need of repair and restoration,” explains Wayne Ehmann, chief architect for Metro-North Railroad – a division of the Metropolitan Transportation Authority of New York State—and the current owner of the terminal. “When we first began the exterior renovation process, we discovered that water infiltration threatened to damage the newly restored interior of the building. In fact, the exterior façade had deteriorated so much that some sections of limestone had actually detached, requiring temporary emergency stabilization repairs. The damage that time had done was considerable. But it’s not a facility that you simply patch up with the latest, strongest materials. Aside from issues of functional integrity, restoring the exterior had to address Grand Central Terminal’s other equally important function. The restoration and preservation of the historic architectural features of the building’s façade was imperative because of the tremendous importance of Grand Central Terminal as an architectural, historical, and public landmark.”

Restoring an architectural masterpiece

is difficult. Restoring an architectural masterpiece in a live environment is quite another challenge. Restoring an architectural masterpiece in a live functioning environment in New York City—the most visible fishbowl in the nation—is an order of magnitude more difficult. Fortunately for Ehmann and Metro-North, Grand Central offered some inherent design advantages.

We were pretty lucky in that the exterior façade goes down to the viaduct level, where pedestrians are not permitted. The exterior is set back about 30 feet from the street. So, we essentially had a moat of cars around our work area. The biggest issue was controlling traffic patterns around the building. That necessitated several meetings with the New York State Department of Transportation. Eventually we had to close a single lane, but the façade work had very little impact on users and visitors to the terminal. We did a lot of outside renovation work above the terminal; we had to be very careful about how we designed the construction of the windows and other components above where pedestrians would be traveling. But we developed ways to limit exposure to potential danger and inconvenience. In fact, the biggest imposition—aside from visually obscuring the façade—turned out to be noise.

We knew that noise would be a problem, but we scheduled it to have the least impact on the community. For example, when the contractor brought out the needle guns to remove paint, we scheduled that work for nighttime, when very few people use the terminal. So far, that’s worked very well. We’ve completed quite a bit of work and we’ve not had one complaint yet. And that’s very important to us. I’m one of the few people who have been on this project since day one. Seeing it completed—and completed sensitively and effectively—is particularly gratifying to me.”

The first step in the \$20 million exterior renovation was a



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comprehensive visual, hands-on, stone-by-stone investigation of the façade. From the roof to the window system to the courtyard, every aspect was carefully tested and mapped, and detailed Computer-Aided-Design drawings were produced for every element. Compiled into a massive report, the assessment documents the history and exact conditions of each element. According to project team member Raymond Pepi, president of Building Conservation Associates, Inc., this level of detail was essential.

“We did have some information, but it was no by no means complete. So, we had to confirm conditions. When you find a crack in a stone, it’s just a symptom. We did a lot of probes and

investigated many parts of the building. We needed to understand the underlying cause of each crack to determine the appropriate action. For example, this is a steel-frame structure with stone wrapped around the building. When steel corrodes it expands, causing cracks in the stone. But cracking stone can also result from the weather, from a freeze-thaw cycle caused by water leakage. We needed to know precisely why the cracks were present. That's what the investigation and the report were about."

The Grand Central Terminal Existing Conditions Assessment Report serves a dual purpose, as a historical document and as a blueprint for renovation. With that document in hand, a renovation strategy was developed. Conducting lab tests to determine the best cleaning method, the project team also performed paint tests to match the original door and window paint. To restore moldings, a cement-lime polymer mixture was created to match the limestone. The complex mechanical system for opening and closing the enormous cast iron-encased windows is also being restored and made operable. And expansion joints are being installed in the stone

to prevent future cracking. Pigeons will even be prevented from roosting on the buildings through a complex set of non-harmful netting. So intent is the project team on protecting GCT's aesthetic and structural integrity, the color and design of the pigeon netting was carefully chosen to make it all but transparent. That level of sensitivity speaks to the spirit of the project team and the importance of their charge.

"Put simply, this is one of the most important buildings in the country. It's the heart of the New York City transportation network. It's a defining part of the culture and history of the city. We felt that it deserved a team and a plan commensurate with its stature," explains Dean Kimball, R.A., DMJM Harris project manager for the restoration. "That's why we scheduled almost a year for the initial investigation. That's why we went to the lengths we did to duplicate original paint, limestone, moldings, everything. This posed considerable challenges for the project team, but we prepared very carefully for those challenges. Everyone involved in the project talks about the significance of the building. That's not just rhetoric. This project was very

personal to the team. So going to the lengths that we did was as much out of passion as it was professionalism.

Because of that, there were no real surprises during the project. And Grand Central Terminal is getting the restoration that it deserves. We've managed to stay close to our schedule and budget. That's quite an accomplishment for a restoration project of this magnitude, and particularly for internationally renowned, functioning monuments. But the effort really speaks to the commitment, foresight, and genuine compassion for New York City that Metro-North possesses. They believe in this building and the people who use it. This is the jewel in their crown. We only helped them polish it so that it could shine for the entire city."

History does not always repeat itself. While we mourn the loss of Penn Station, we can revel in the glory that is Grand Central Terminal. And now, thanks to Metro-North's comprehensive exterior renovation, that glory is being restored to its original form. 

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Grand Central Terminal's place in New York City and in the world is unrivaled.

