

The Magazine of the International Building Transportation Industry

# ELEVATOR WORLD

January 2010

[www.elevator-world.com](http://www.elevator-world.com)

Cover:  
**2010 Project of the  
Year Awards**

**Cover Photo:** The Bank of America Tower at One Bryant Park, New York City

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**Schindler**



# 2010 Project of the Year

This year's winners of the **2010 ELEVATOR WORLD Project of the Year** contest all represented projects that exemplified team effort, the ability to overcome challenges and the desire and ability, on behalf of project participants, to rise above and beyond the call of duty to bring the projects to completion on time, within budget and to clients' satisfaction. Winners in each category have been presented with trophies commemorating their first-place awards and are included in the following section. The additional contest entries will also be presented in future ELEVATOR WORLD issues. The staff of ELEVATOR WORLD and the Project of the Year judges would like to offer congratulations to all of the contest's entrants, as well as the individual project participants who have been listed in each project report.

It is important for our industry to recognize the efforts of individuals who participated on all levels in these projects. However, we know that there are too many for us to be able to list. Therefore, we ask that the winners take the time to inform all of those involved in these projects of the success of their efforts, not only in completing the projects in a successful manner, but also in the context of their input to the success of earning this honor for themselves, and their employers, fellow workers and clients.

Entry information for the **2011 Project of the Year** contest will be presented in the April 2010 issue of ELEVATOR WORLD. Project categories will be listed on the entry form, and we encourage readers to be thinking of those projects that you feel are deserving of special recognition in the **2011 ELEVATOR WORLD Project of the Year** contest.



Visit our website, [www.elevator-world.com](http://www.elevator-world.com), for more on these project winners.

Category

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Elevators, New Construction

## Elevators in the Bank of America Tower

submitted by Allison Elliott



### Project Description

The Bank of America Tower at One Bryant Park in the heart of midtown Manhattan, New York, is a 54-story example of environmental building design and construction. Serving as both developer and building owner, The Durst Corp. had a very specific goal in mind: to build the most economically friendly skyscraper in the world – one that would conserve natural resources, reduce carbon footprint, and seamlessly meet the needs of its tenants and surpass their expectations of a 21st-century high rise.

From the outset, Durst recognized that One Bryant Park would have to operate at twice the energy efficiency of neighboring towers. It was a challenge that would require careful consideration of energy consumption in every aspect of building design, including vertical mobility. Elevator systems typically take up an estimated 10% of a building's energy needs. To help reach its energy conservation goals, Durst partnered with Schindler Elevator Corp. during the early stages of building design.

Durst wanted a mobility system that would save energy and provide every tenant with direct access to his or her destination. With

Top left: A passenger car buffer/underneath car

Top right: The main lobby of the building features six elevator banks, each with a Schindler ID elevator.



2.1 million square feet of planned office space and a unique lobby design, traffic management in and out of the building during peak hours would be critical. Schindler ID®, a second-generation destination-dispatch system, was chosen.

Schindler Project Manager John Frank said of the choice:

*“The lobbies at One Bryant Park were especially in need of organized traffic flow during rush-hour periods. Schindler ID was able to provide that benefit and move passengers to their destinations more quickly and with fewer trips.”*

At One Bryant Park, the Schindler ID mobility system uses 3% less energy than conventional systems and increases traffic efficiency by more than 30%. It also gives back to the grid with regenerative drives that create electricity in empty-car-up trips.

#### **One Bryant Park Environmental Sustainability**

Covering two full acres, One Bryant Park has one of the largest land footprints in midtown Manhattan. It is the city’s second-tallest building. Its environmental goals were to:

- ◆ Reduce energy consumption by at least 50%
- ◆ Reduce potable water consumption by 50%
- ◆ Reduce storm water contribution by 95%
- ◆ Utilize 50% recycled material in building construction
- ◆ Obtain 50% of building material within 500 miles of the construction site.

Other environmentally friendly design and construction efforts and choices also contributed to the building’s green status:

- ◆ 68,000 cubic yards of concrete containing 40% furnace slag
- ◆ The steel used in construction contains 60% recycled material.
- ◆ Rainwater capture, air filtration and floor-to-ceiling insulated

*Continued*

## **Bank of America Tower Statistics:**

- ◆ Total building height: 945 feet in 54 stories
- ◆ Total occupancy space: 2.1 million square feet
- ◆ Bank of America is a co-owner of the building and its largest tenant, occupying 1.1 million square feet.
- ◆ 1 million square feet above the Bank of America is intended for office space.
- ◆ One Bryant Park houses the newly reconstructed Henry Miller Theater, which takes up 50,000 square feet of the building.

## **Credits:**

**Building Owners:** The Durst Organization and Bank of America

**Building Developer:** The Durst Organization

**Building Architect:** Cook+Fox Architects LLP

**Building Designer:** Cook+Fox Architects LLP/Adamson Associates

**Building Planner/General**

**Contractor:** Tishman Construction

**Transportation-Systems**

**Contractor:** Schindler Elevator Corp.

**Equipment Manufacturers:** Schindler Elevator Corp.

**Component Supplier:** Schindler Elevator Corp.

**Project Consultants:** Van Deusen & Associates



The machine room for elevators serving floors 40-51 at One Bryant Park



Low-rise and intermediate  
low-rise lobby

Continued

glass walls conserve energy that would otherwise be expended by heating and cooling systems.

- ◆ The on-site natural gas power plant produces 70% of its own energy.

#### **Vertical-Transportation Equipment**

Schindler installed 52 elevators and three Schindler 9300® Advanced Edition escalators at One Bryant Park in four eight-car elevator banks and one six-car elevator bank. This installation was completed in 2008. In addition to the energy savings provided by linking the elevators to the Schindler ID system, their AC variable-frequency drives consume less energy and operate cleaner than traditional DC elevator drive systems.

#### **How Schindler ID Works**

Schindler ID enabled the owners of the Bank of America Tower to greatly improve traffic handling. Schindler ID streamlines traffic by assigning passengers to a specific elevator car to take them to their destination. The system can also allow or limit access to various floors, depending on building requirements.

By using an advanced algorithm, the system learns complex traffic patterns. It can take stock of what is taking place in a building in real time and determine the most efficient outcome when a passenger enters a call. It evaluates wait time and groups passengers going to like destinations. This control system reduces unnecessary trips, minimizes wait time, saves energy and improves traffic handling by 30% over conventional systems.

#### **Challenges in Delivery and Installation**

With this major project, the coordination of the installation to turn over a quality product in a timely fashion presented several challenges. Frank said of the synchronization:

*“Because of the unique size of this building’s footprint, we worked hard to ensure that Schindler worked toward a smooth*

installation from the design and engineering phase through the execution. One way we were able to make the installation more efficient was by using simple computer data link connections rather than old-fashioned parallel wiring.”

The largest complexity faced by the Schindler team was the location of the building. At 42nd Street and Sixth Avenue, One Bryant Park resides right in the middle of Manhattan next to several major subway lines. The company worked consistently with building owners to ensure that such logistics issues as the significant challenge of delivering materials during the workday would not interfere with daily traffic and people flow throughout the epicenter of one of the busiest cities in the world.

Frank added:

*“We had highly trained installation teams, as well [as] a dedicated project team. Another challenge was that because of the design and construction of the core, most of the elevator machines needed to be brought in through the side of the building, then hoisted into their permanent positions.”*

#### **A Better Operation**

Along with the “green” aspect of the transportation system, Durst was interested in technology that could streamline traffic flow throughout the building. As one of the tallest structures in Manhattan, the building houses multiple elevator banks. Schindler ID enables passengers to go directly to their floor in one trip. Thus, the system has not only benefited the building owners, but improved the building environment for users, who enjoy shorter waiting times when they access an elevator.

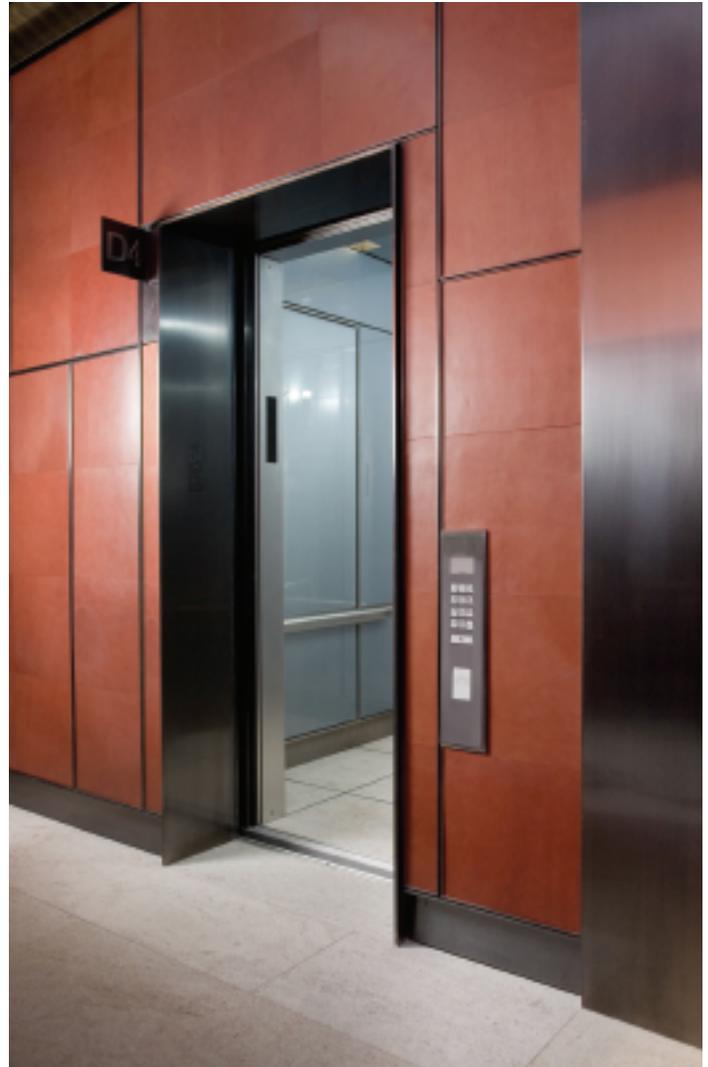
#### **Results**

The combined efforts of the building owners, architects and Schindler have helped One Bryant Park aspire to a Platinum Leadership in Energy & Environmental Design rating (the highest possible) from the U.S. Green Building Council. If awarded this rating, One Bryant Park will become the first high-rise office building in the world to garner this level of accreditation.

Jody Durst, co-president, The Durst Organization, said of One Bryant Park:

*“We are extremely proud of the destination-dispatch elevator system. We were familiar with Schindler’s destination-dispatch technology, and our philosophy is to incorporate the best possible technology in the building at the time that it is built.”*

Schindler’s involvement in the project addressed concerns regarding high-rise accessibility, passenger wait times, and, most importantly, the necessity of energy preservation for conservation. The architects of One Bryant Park hoped for a building that would fundamentally change the way people thought about the environmental impact of skyscrapers.



A passenger car at One Bryant Park with Schindler ID destination dispatch

