

*productive architecture*  
Project Portfolio 2010

**Kiss +  
Cathcart,  
Architects**

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*stillwell avenue terminal train shed*



Coney Island's Stillwell Avenue Terminal is the largest above-ground station in the New York City subway system. For the reconstruction of this major intermodal terminal, Kiss + Cathcart designed a 76,000 square foot glass and steel structure using an innovative, panelized construction system of semi-transparent photovoltaic modules. These solar modules function both as enclosure and a source of approximately 200,000 kilowatt hours per year of renewable electricity.

The train shed was designed to meet the demanding maintenance and operations requirements of New York City Transit. It stands as a major civic gesture by New York City Transit, promoting the use of renewable energy, acting as a catalyst for the revitalization of Coney Island, and providing the public with a beautiful and convenient transit facility.



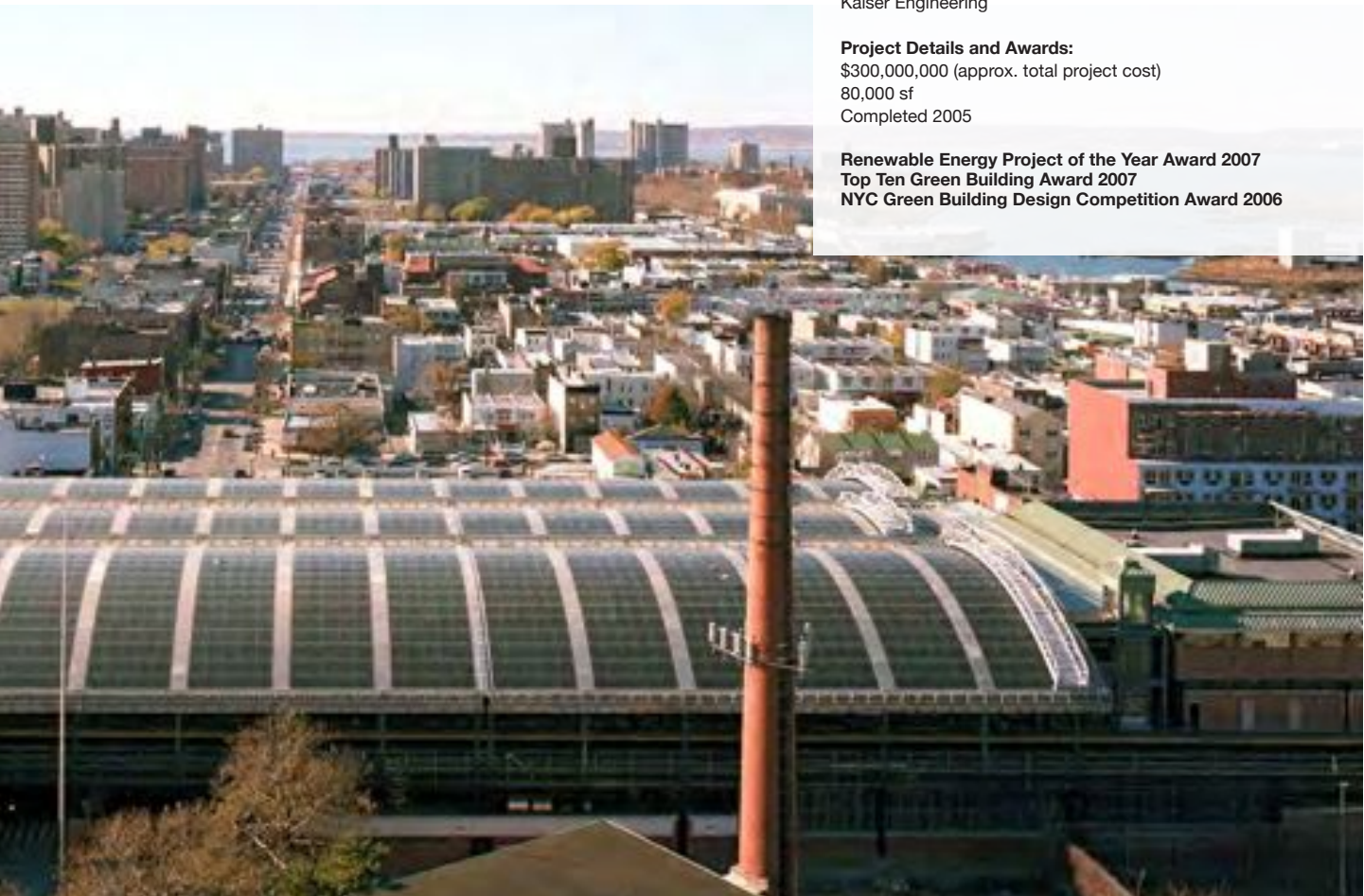
**The Client:**  
MTA, NYC Transit

**The Team:**  
Kiss + Cathcart, Architects  
Jacobs Engineering  
Domingo Gonzales Associates

**Conceptual Planning:**  
Kiss + Cathcart, Architects  
Jambekhar/Strauss, Architects  
Kaiser Engineering

**Project Details and Awards:**  
\$300,000,000 (approx. total project cost)  
80,000 sf  
Completed 2005

**Renewable Energy Project of the Year Award 2007**  
**Top Ten Green Building Award 2007**  
**NYC Green Building Design Competition Award 2006**



## stillwell avenue terminal train shed



### Site

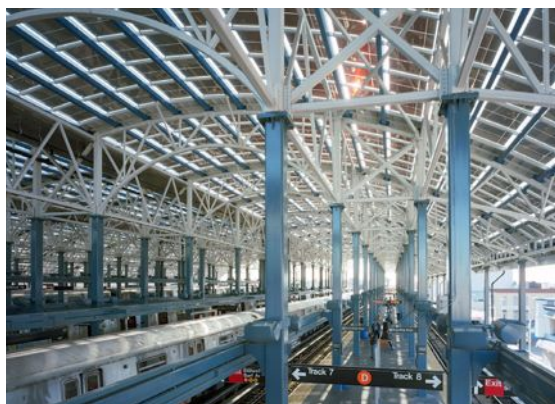
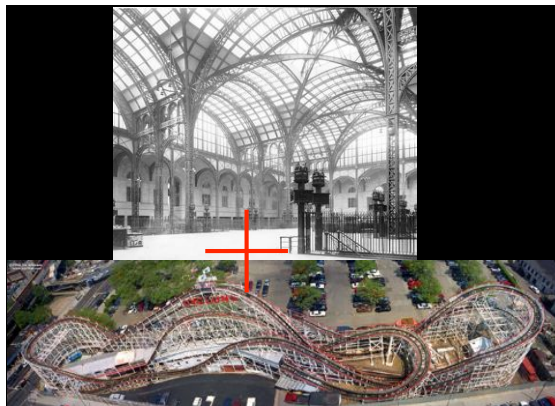
Stillwell Avenue Terminal sits one block from the Coney Island beach, at the corner of Stillwell and Surf Avenues. The project references grand urban stations, as well as the honky-tonk of the midway. The details of the structure recall the 19th century amusement district, while rendering the 21st century technology of the energy-producing skin in the simplest cleanest way possible. The terminal is a multimodal station, accommodating eight tracks on four platforms as well as a bus loop below.

### History

In the 19th Century, Coney Island was connected to New York City by four steam train lines, creating the infrastructure for its development as a major urban resort. The Island developed around parks with fantastic themes like Dreamland, Luna Park, and Steeplechase Park. These were the first modern, high-tech, urban fantasy resorts for the masses, dependent on modern technologies, including railway access. The lines were consolidated and brought to a terminus at Stillwell Avenue in 1919. The station is across from Nathan's, since 1916 the center of the hot dog universe. Today, the new station is playing a role in the revitalization of the community.

### Materials

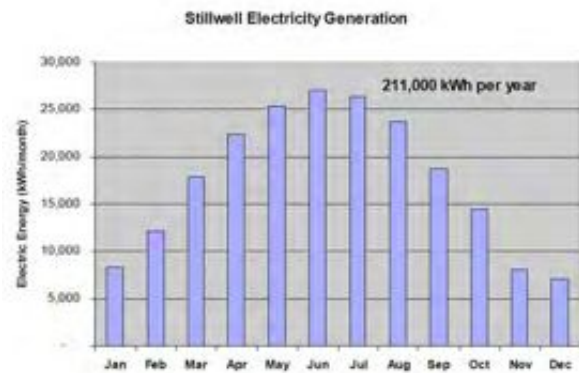
As a first of its kind project, the design team was instructed to find the strictest possible codes and standards to design to, such as the Miami-Dade County hurricane protocols for the solar glazing.





## Energy

The output of the BIPV system at Stillwell Avenue Terminal is enough to provide all the electricity to 33 typical single family houses in the Northeast US, 211,000kWh per year. The custom BIPV units, approximately five feet square, contain semitransparent amorphous silicon plates in the center, approximately 5% transparent, with a band of clear glass around the edge. The modules are triple laminated for durability. The system was designed to provide approximately 10% transparency, including the glazed roof, opaque structure, etc. in order to avoid needing artificial light during the day.



## Awards

2007 Renewable Energy Project of the Year Award, NY Association of Energy Engineers  
 2007 Top Ten Green Building Award, AIA Committee on the Environment  
 2006 New York City Green Building Design Competition Award

