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Kennedy Int'l Begins \$19 Billion Transformation by Revamping Terminal 8



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FACTS&FIGURES

Project: Comprehensive Terminal Redevelopment

Location: John F. Kennedy Int'l Airport

Terminal: 8

Airport Owner: New York City

Operator: Port Authority of New York & New Jersey

Project Cost: \$400 million

Funding: American Airlines

Architect: AECOM

Construction Manager: Holt Construction

Design Consultancy; Project Oversight: Arcadis

Mechanical/Electrical/Plumbing & Special Systems

Engineering: Arora Engineers

Notable Features: Improved signage & intuitive wayfinding; larger holdrooms with charging stations & upgraded restrooms; expanded TSA checkpoint; updated baggage handling system with new screening subsystem & checked bag resolution area; New York artwork & digital campaign; new premium lounges for American Airlines & British Airways, with co-branded premium check-in area

Key Benefits: Expands capacity to support increased passenger demand; enhances end-to-end customer experience; updates terminal design & aesthetics; leverages new security technology, systems & protocols; boosts sustainability & resiliency

Airside Improvements: 5 new wide-body gates for trans-Atlantic flights; 4 additional aircraft parking/unloading areas; new apron slot drains from BG-Graspointner

Key Benefits: Ability to accommodate Boeing 777-200s, which replaced 767s in American Airlines fleet; additional parking capacity on ramp

Pending Projects: Concessions overhaul, with emphasis on local brands

Kennedy Int'l Begins \$19 Billion Transformation by Revamping Terminal 8

BY JODI RICHARDS

In 2017, the Port Authority of New York and New Jersey (PANYNJ) announced that John F. Kennedy International Airport (JFK) would undergo a long-term \$19 billion redevelopment program to create a world-class aviation facility. That might sound like political hyperbole, but officials report that after just a few years, the massive initiative is, indeed, fully changing the way passengers, airlines and other tenants experience the busy New York airport.

"The main driver was to create a new world-class facility fitting of JFK as a

gateway to New York and the country," says James Heitmann, chief operating officer and former director of Aviation Redevelopment for PANYNJ, which operates the airport under a long-term lease with New York City. "It was a grander vision to not just replace terminals, but really match the facilities to what JFK deserves."



JAMES HEITMANN

Specific objectives for the comprehensive Vision Plan 2017 are:

- creating a more unified, interconnected terminal layout,
- simplifying the on-airport roadway network,
- airside improvements to reduce ground delays,
- increasing capacity of the AirTrain people mover system,
- improving roadway access, and
- developing state-of-the-art cargo facilities,
- centralizing parking facilities, and
- ensuring world-class amenities

That's a tall order to fill while continuing to operate as the 13th busiest airport in the United States and the busiest North American gateway for international passengers. Last year alone, JFK served more than 55 million annual passengers, with service from more than 100 airlines. Having originally opened in 1948, many of the airport's structures and facilities are dated, congested and, in many ways, obsolete. Heitmann and other PANYNJ officials acknowledge that many gates are too small for the current aircraft fleet, terminals are overcrowded at peak times, and passengers experience long walks, complex paths and unclear wayfinding in some areas. In addition, there is limited resiliency in case of system failure, lack of network capacity, the baggage handling system is dated, and roadways lack capacity—all contributing to a less-than-optimal customer experience. "Those are trouble spots we wanted to address in this expansion," says Heitmann, noting that several of JFK's original terminals outlived their useful life. Interestingly, terminals are numbered 1 to 8, but Terminal 3 was demolished in 2014 to make way for a New Terminal 1, and the original Terminal 6 was demolished in 2011 as part of the Terminal 5 expansion.

Leading the Charge

The sweeping redevelopment of Terminal 8 is the first piece of the puzzle to realigning and rebuilding JFK's entire campus. The \$400 million, privately financed project was completed in November 2022, allowing British Airways to colocate with its OneWorld® partner, American Airlines. That means passengers no longer have to transfer terminals to catch connecting flights between the two airlines, which facilitates hourly service between JFK and Heathrow Airport in London. Six other partner carriers are expected to operate from the new terminal.

Terminal 7, British Airways' former home at JFK, will eventually be demolished to make way for the new Terminal 6.

As part of the vision and planning exercises that preceded the program, PANYNJ leadership established a set of specific criteria for creating what they deemed to be a world-class facility. Right-sizing passenger paths—from roadways, check-in facilities and security, to concessions, holdrooms, lounges and gates—was top of the list, as all were undersized and outdated.

"We've worked hard, and American Airlines has worked hard, to achieve those goals," says Heitmann of the recent Terminal 8 transformation.

Early in the design process, workshops with the project architect, construction firm and lead design engineer helped ensure that program plans would meet the needs of PANYNJ, American Airlines and other tenants.

"The Port Authority had a fantastic plan, and everybody worked hand-in-hand to really give a first-class international airport experience," says Steven Giordano, project manager at Arora Engineers. As a subconsultant to AECOM, Arora provided lead engineering design services for mechanical, electrical, plumbing, fire/life safety and special systems from 30% conceptual design through the 100% implementation document phase. It also provided construction support services throughout the project.



STEVEN GIORDANO

The project included 70,400 square feet of new space and 57,500 square feet of refurbished space, for a total footprint of 127,900 square feet of new and modernized space within Terminal 8. Giordano notes that ensuring redundancy throughout the campus was critical to PANYNJ officials, so engineers focused on the electrical substations to meet those requirements. Because the project combined new and renovated space, the early workshops were especially critical to determine what systems would be replaced and what could still be used.

Upgraded Amenities

Heitmann notes that the recent redevelopment adds new premium lounges for both American Airlines and British Airways passengers. A co-branded premium check-in area provides personalized concierge-style service for top-tier guests, replacing American Airlines' former Flagship First check-in space. Three distinctive lounges are designed to combine the best of the British Airlines and American Airlines brands with New York flair. The facilities are even named after famous New York neighborhoods: The Chelsea Lounge, The Soho Lounge and The Greenwich Lounge.

The heavy emphasis on creating a satisfying customer experience extends well beyond the new premium lounges. Heitmann explains that the planning team followed the passenger journey from curb to plane and back again to make sure that the experience in Terminal 8 reflects the latest expectations. That includes clear signage and intuitive wayfinding, properly sized holdrooms with plenty of charging stations and upgraded restrooms, he specifies. Along with signage upgrades, the architecture and layout of the building guide passengers through the facility in a much more efficient way.



Three premium lounges were added for top-tier passengers on American Airlines and British Airways.

An extended passenger security screening area and new baggage handling system help improve passenger processing. Five wide-body gates were added to the building to allow for more trans-Atlantic flights, and four aircraft parking/unloading areas help accommodate the additional traffic.

Terminal 8 is also undergoing a major concessions enhancement, with an emphasis on locally inspired food and beverage options.

Local culture is also highlighted in diverse visual elements. "Working with local artists, we want art that reflects New York," Heitmann says. "Beyond local art, we want digital displays and branding—so that when you come into New York, you see that you're in the new JFK, and that standard is across the campus."

The Terminal 8 redevelopment project included the work of more than 115 minority- and women-owned business enterprises (MWBE). Such companies were awarded contracts totaling more than \$161 million, exceeding the Port Authority's commitment for at least 30% MWBE participation in the agency's capital projects. Local businesses were awarded nearly \$33 million in contracts.

Pros of Public/Private Partnership

The next major phase of the overall redevelopment at JFK is a \$1.5 billion expansion of Terminal 4, home to Delta Air Lines. That project is currently underway and slated to wrap up by the end of this year.

Other primary components of the monumental airport-wide program are the \$9.5 billion New Terminal 1; the \$4.2 billion new

Terminal 6 that will connect to Terminal 5; and \$3.9 billion of improvements to create a more efficient roadway system, add new parking facilities and enhance other infrastructure.

While \$15 billion of the overall \$19 billion program is privately funded, Heitmann stresses that the entire campus will have a unified feel. "JFK is a gateway to the U.S.," he says. "We want to make sure that no matter what terminal passengers come into, they get the same feeling—'I'm in New York.'"

American Airlines led the design and sponsored the Terminal 8 project. Public/private partnership is nothing new to the Port Authority, Heitmann notes. "It's a large part of the way the Port Authority has done business," he says. "It really takes everybody to be able to move a program of this magnitude." In partnership with American Airlines, AECOM led the design team and Holt Construction was the general contractor for Terminal 8.

Campus-wide Coordination

Given the large number of stakeholders involved and the huge magnitude of work occurring at JFK, managing communications is an ongoing focus. "It's a lot of work over the years—a lot of coordination and management of traffic and passenger flows," Heitmann reflects.

Beyond essential communication among stakeholders, it is just as important to "get out into the community, listen to their concerns and try to address those in the best way possible," he says. Working with local elected officials, the airport established a committee to address community concerns, particularly regarding environmental issues.

Internally, PANYNJ officials developed a construction coordination agreement that requires all major project partners to share office space with Port Authority project leaders. Heitmann explains that colocating at JFK, with the Port Authority at the center to coordinate, allows for much closer cooperation and collaboration to ensure all projects are optimally managed and impact to airport operations or other projects is avoided. "We really leveraged that [colocation] and lines of communication to make sure everybody was kept in the loop on what was happening and when," he adds.

Mark Phillips, a project executive from Holt Construction, agrees that having key partners together at the table from the beginning was a boon to the project. "It was 100% a benefit," he emphasizes. "We were heavily involved in feasibility and budgets early on for what the overall project would become. So we were able to use the commercial terms and financial terms to help craft what the



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Five new wide-body gates help accommodate more trans-Atlantic flights.



overall program was so that American Airlines would get the most out of the project for what they were going to spend on it."

When the project first broke ground in 2020, the construction schedule was very linear and time-sensitive. "We would turn gates back over to Operations before we impacted other gates," Phillips explains. Then the pandemic hit full force, putting a major damper on enplanements, workforce availability and material procurement. "It was a major impact to the schedule," he recalls.

Heitmann notes that American Airlines benefited from a schedule standpoint, because Terminal 8 was the first project in JFK's massive program. As a result, much of the work at Terminal 8 started pre-pandemic, and crews were able to continue working.

Despite having additional requirements, such as COVID testing and onsite prevention measures, the project team used the dramatic lull in passenger traffic as an opportunity to compress the schedule. "The team adapted very well to the stresses put on the project from the outside," Phillips remarks, adding that crews managed to finish the terminal on time.

Giordano suspects that project partners were able to work through the unusual circumstances COVID created because everyone was already well integrated. The main challenge for the design engineers was not being able to be physically on-site, so they used video chats to review existing equipment and ductwork, and then monitor the installation of updated replacements. "We were very fortunate that Holt Construction and American Airlines stayed open and that they prioritized the T8 projects," says Giordano. "If we couldn't be there, they were our eyes."

With the challenging \$400 million project complete, Heitmann holds up the revamped Terminal 8 as a great example of the new standards the Port Authority is setting at JFK. In particular, he is pleased that the campus-wide initiative is allowing for original personalities at each terminal.

"The building had really good bones, and at the end, it's not going to stick out as one of the older buildings," he adds. "It's going to represent itself well in terms of passenger amenities." ✈️

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Arora Engineers was proud to lead Mechanical, Electrical, Plumbing, Fire/Life Safety, and Special Systems engineering and support sustainability and energy modeling services as a subconsultant to AECOM for the Integrated Program Delivery of JFK's new Terminal 8.



Image: The Port Authority of New York and New Jersey

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