



ATLANTIC CITY
INTERNATIONAL AIRPORT

factsfigures

Project: Terminal Expansion

Airport: Atlantic City (NJ) Int'l Airport

Size: 75,000 sq. ft.

Cost: \$25.1 million

Key Elements: Mini federal inspection station; new exit lane security; 3 new airside gates; baggage claim enhancements

Timeline: Planning/design began in 2009; construction began in Dec. 2010; facility opened in Nov. 2012

Annual Operations: 120,000

2012 Passenger Volume: 1.39 million

Prime Consultant, Project Mgt., Terminal Planning/Programming, Architecture: AECOM

Structural & Civil Engineering: AECOM

Construction Manager: O'Donnell & Naccarato

General Contractor: Hunter Roberts Construction Group

Geotechnical Engineering: McClymont & Rak Geotechnical Engineers

Site Survey: Dresdner Robin

Mechanical, Electrical, Plumbing Engineering: ARORA Engineers

Fire Protection, Life Safety: ARORA Engineers

Code Consulting: Rolf Jensen and Associates

Building Permits Coordination: TPD Architects

Baggage Systems Design: BNP Associates

Bag Claim Devices: G&T Conveyor

Passenger Boarding Bridges: JBT Aerotech

Seating: Zoeflig

Gate Displays: Forms & Finishes

FIDS/BIDS and Gate Counter Integration: Infax

Canopy Systems: CPI Daylighting

Security Bollards: Secure USA

CBP Scanners: Rapiscan

Exit Lane Security: Eagle Security Group

IT & Security Systems: Faith Group

Interior Signage: Priority Sign

Exterior Site Marker Sign: Custom Finishers

Digital Advertising: Clear Channel Airports

Achievements: Nearly doubles the terminal's size (the addition is two-thirds the size of the previously existing terminal), readies the airport for scheduled international flights



Atlantic City Int'l Provisions for Scheduled International Service

With a recently completed \$25.1 million addition in place, Atlantic City International Airport (ACY) in New Jersey cannot only accommodate more domestic flights, it is also now equipped to add scheduled international flights. The 75,000-square-foot expansion, which nearly doubled the terminal's size, includes three new gates (two can be used for international flights), three new passenger boarding bridges, a "mini" federal inspection station and five upgraded exit portals. The expanded baggage claim area now includes a new inbound bag room, three new bag claim devices and three new baggage service offices.

Planning and design for the project began in 2009, construction ensued in December 2010 and the new addition opened in November 2012.

Each year, ACY handles about 120,000 airfield operations; but the airport could easily double its traffic and still have excess airfield capacity, notes Sam Donelson, acting executive director of the South Jersey Transportation Authority.

Recent improvements have consequently focused on the terminal — specifically, the departures and inbound baggage areas. The

new space and infrastructure, combined with efficient gate utilization, will allow ACY to handle twice the passengers it presently serves, notes Donelson.

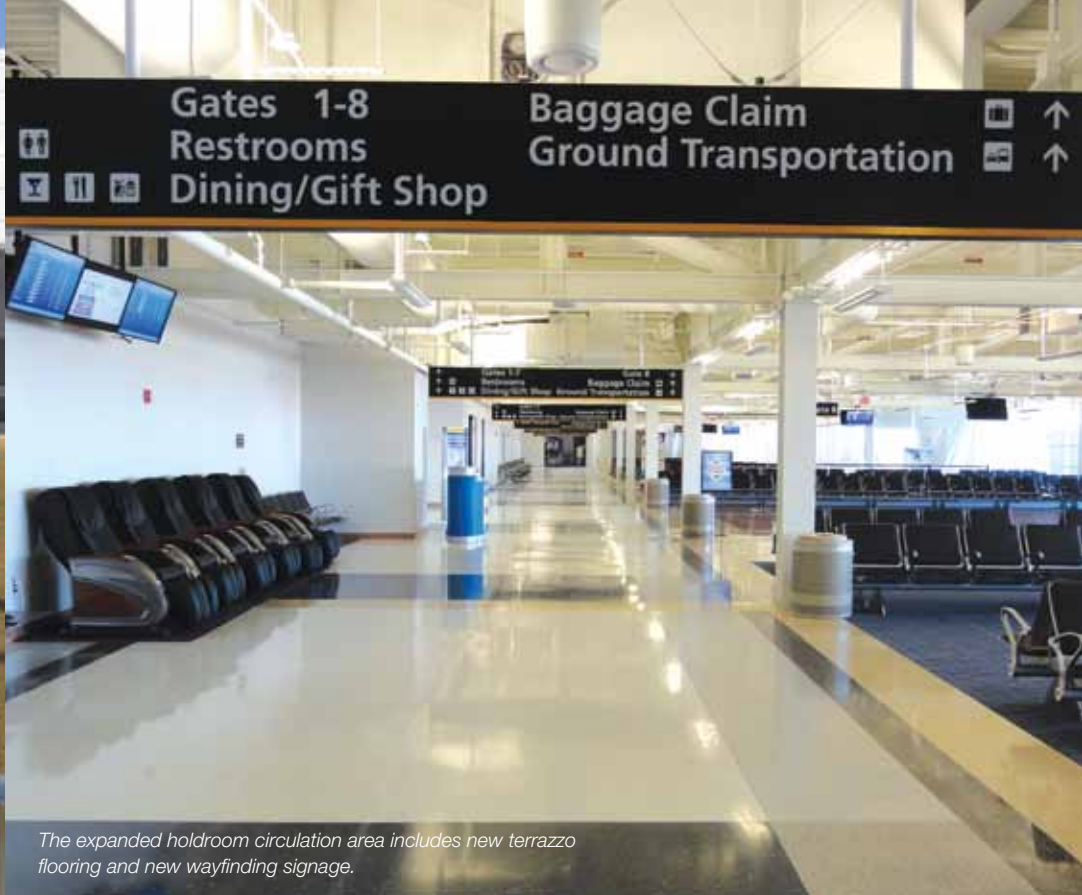
"We've been hanging around a million and a half (annual) passengers for a couple of years," he reports. "We knew that was our trigger point, where we would need to have the next terminal expansion."

For years, the airport has received occasional international diversions. Its long runways (10,000 feet and 6,100+ feet), dedicated airspace (ACY is a joint-use National Guard facility) and control tower that's staffed 24/7 make the East Coast airfield a practical choice for irregular operations.

Its previous lack of terminal services for international traffic, however, used to make ACY a less-than-ideal option overall. Passengers often had to remain on the aircraft. And when deplaning was necessary, airport crews had to set up a makeshift area to separate the international passengers from its usual domestic traffic.



Sam Donelson



The expanded holdroom circulation area includes new terrazzo flooring and new wayfinding signage.

By Rebecca Kanable

With new facilities in place, the airport is better equipped to handle impromptu international guests. Donelson, in fact, is leveraging diversions as a “foot in the door” to secure scheduled international service.

A federal inspection station (FIS) to process international travelers’ entry into the United States was a key component. The expansion project’s prime consultant, AECOM, designed a 16,000-square-foot “mini FIS” for the airport and obtained approval for its smaller-than-usual size from U.S. Customs and Border Protection. With a maximum processing capacity of 200 passengers per hour, the facility may sound small to large airports; but Donelson considers it just the right size for ACY.

“We’re not going to be handling multiple international arrivals at one time,” he explains, “but we can handle virtually any size aircraft that would be using our airport from an international standpoint (up to B767).”

If the addition of scheduled international service eventually requires the airport to accommodate multiple planes simultaneously, there’s plenty of room on ACY’s 5,000 acres to expand, he adds.

Donelson is often asked to justify the cost of adding an international passenger processing station at an airport without international service. While he acknowledges the “if-you-build-it-they-will-come” appearance, he emphasizes the facility’s strategic nature. “We couldn’t get scheduled international flights until we had this,” he notes.

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A canopy of opaque panels on steel trusses shields the airport's new meter-greeter entrance.

With the new FIS in place, ACY is marketing its airfield *and* landside capabilities to international carriers.

Planning For Growth

Being owned by a transportation authority benefits ACY, notes Donelson. Shared resources and economies of scale make operations less costly, and the airport can pass those savings on to airlines via lower rates and charges, he explains. The recent terminal addition, in fact, was wholly funded by tolls collected on the Atlantic City Expressway.

South Jersey Transportation Authority assumed airport operation responsibilities from the FAA's William J. Hughes Technical Center in 1997 and began master planning in 1999.

"It's really been a long process," reflects Donelson, who wears multiple hats as the authority's director of operations for about five

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years and chief engineer for about eight. “When we took over operation of the airport, we had to strategically plan our money to get to this point.”

In recent years, the transportation authority has completed a taxiway relocation project, constructed a baggage screening facility and built a six-story parking garage.

“We started at the most crucial points, which are runways, taxiways and electrical facilities,” he explains. In order to expand the terminal and apron, the taxiway closest to the terminal had to be moved 800 feet so it wouldn’t crowd the new facilities. “It gives us great satisfaction that we’ve been able to work through a process we put in place back in the early 2000s,” Donelson notes.

Exit Portals

Along with the mini FIS, Donelson considers new security exit lane technology a highlight of the airport’s recent project. The expansion provided room for portals that prevent people on the airport’s nonsterile side from entering the sterile side. Donelson estimates that the equipment saves ACY about \$300,000 per year by reducing the staff needed to monitor exit lanes.

The cylinder-shaped portals, made by Eagle Security Group, each have two doors. When a customer approaches the door on the sterile side, it automatically opens and up to six people can enter. After the sterile side door automatically closes behind the last customer, the door to the nonsterile side automatically opens in less than one second.

Because the portal’s two doors are never open at the same time, there’s always a physical barrier between the sterile and nonsterile sides, stresses Raymond C. Wong, vice president of Eagle Security Group. If a user holds one door open, the other is designed not to open.



Raymond C. Wong

ACY was the first airport to install Eagle’s exit lane breach control portals as part of a pilot project in 2009, notes Wong. The exit portals and other new technologies are field-tested at ACY through a unique partnership with the U.S. Department of Homeland Security’s Transportation Security Laboratory. The partnership, known as a Cooperative Research and Development Agreement, was the first such agreement between a public airport and DHS. The laboratory is located on the airport campus at the William J. Hughes Technical Center.



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After a series of tests during pilot operations, local TSA officials approved the Eagle portals for continued use as part of ACY's overall security plan. The airport recently replaced its initial equipment with updated Eagle 2 units. According to Wong, the newer version is 25% faster and moves 25% more people.

With five portals, each able to accommodate six customers and cycle five times per minute, ACY's maximum throughput rate is 150 people per minute.

The portals are designed with an "anti-passback feature" to prevent airport visitors from passing items (explosives, guns and other objects as small as a quarter) from the nonsterile to the sterile side.

Although travelers may assume they are being scanned as they walk through the exit devices, the portals are actually scanned for objects after people exit, Wong explains. When the door to the nonsterile side closes, the system uses proprietary technology to scan the volume of the portal and compare it to the volume of an empty portal. If the volumes don't match, the system knows something is in the portal and opens the door to the nonsterile side so passengers can

retrieve item (often a forgotten bag). If an item is not removed after multiple audible alarms, an operations officer intervenes.

High-definition video cameras inside each portal allow remote monitoring from the operations center, and an audio system provides two-way communication. Other safety features include an emergency button that opens the door to the nonsecure side and a backup battery system, notes Wong.

There have been no reported exit lane breaches at ACY since the portals have been in operation, reports Donelson.

More Space

From a design perspective, correcting deficiencies in the terminal was one of the project's key achievements, says AECOM project director and principal architect Terry Rookard. Designers overhauled inbound and outbound baggage operations, baggage claim areas, passenger circulation and concessions/terminal operation support spaces.



Terry Rookard

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Designers overhauled both inbound and outbound baggage operations.

The project also established a new set of design standards for the airport, notes Donelson. "The areas are much more spacious," he describes. "We've changed the entire look inside the terminal. Everything is new. It's really a pleasure to walk through and give tours and hear people's reactions. People are amazed at how beautiful the facility is."

About 3,000 square feet of additional concessions space was designed to enhance passenger convenience and maximize airport revenue; and the meeter-greeter area was expanded.

Additional support spaces include a loading dock and terminal storage areas. The airport's operations area is now twice as large and is equipped with wall-mounted flat panels, a smart board and updated workstations.

The AECOM team designed the terminal to reflect "today," while respecting the character of the existing terminal. "We used similar materials (glass and metal), but applied them in a way that struck a balance between old and new," Rookard explains.

He describes the finishes as "shiny, clean and vibrant — almost casino-like." The terminal's image was polished and articulated to reflect current times, he adds.

Rookard considers improving the image and the identity of the airport another key achievement of the project. AECOM designed a 10-foot tall metal and stone dimensional entrance sign to set the tone outside the airport. The giant artwork features a large A (for Atlantic) with an airplane swooping around it to form a C (for City).

Overcoming Challenges

Adhering to New Jersey's stringent construction requirements and ensuring that work impacted airport operations as little as possible were particularly challenging accomplishments during the project, notes AECOM associate vice president and project manager Larry Bauman.



Larry Bauman

"From a technical perspective, there were a plethora of challenges that emerged after construction started," Rookard recalls. Many related to the terminal's multiple previous expansions.

"During demolition, structural and life safety issues were revealed that had to be solved on the fly," Rookard explains. "Existing structural details were not reflected in the available as-built information, and wall construction was not executed according to the original design documents. This meant that the design and engineering team, working closely with the contractor (Hunter Roberts Construction Group), had to modify details and work with the local building inspectors to resolve these issues and bring the terminal into compliance with current building codes."

The project was executed in two main phases: construction of the extension space and connecting it to the existing structure. Installing the second-level terrazzo floor, however, required several sub-phases.



Three gates had to be taken down during the expansion. "When we're only starting with seven, that's a significant hit to our operational capacity," Donelson remarks. "It took a lot of flexibility on the part of our operations folks, the airline station managers, our tenants and our customers."

Now that the expansion is complete, the airport has 10 gates.

More in Store

The development of a fiberoptic network for the FIS will benefit the entire ACY campus, because crews pulled cable throughout the airport, notes Joel Falk, director of information and tolls technology for the transportation authority. The new technology builds a ring topology capable of withstanding a cut or service disruption, explains Falk. Using this network improvement, a new "crash phone" system will be developed to complement the five-bay Aircraft Rescue and Firefighting facility currently under construction. Completion is expected in May.



Joel Falk

Verizon Wireless is building a distributed antennae system throughout the terminal and garage. The system includes an in-house repeater to augment cellular coverage strength, Falk explains. In addition, enhanced Cisco WiFi hotspots were upgraded to improve WiFi coverage and bandwidth in the terminal. ACY secured sponsorships for the service, which it provides free to airport visitors.

Construction of a direct roadway connecting the Atlantic City Expressway and the airport access road is expected to begin in June. In late January, the project was in the final design phase.

Based on future demand and funding, Donelson anticipates that ticketing will be the next area ACY needs to expand, followed by the construction of a second parking garage. Fortunately, the latest terminal expansion was designed to allow space for two to three more additions. ✈️

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