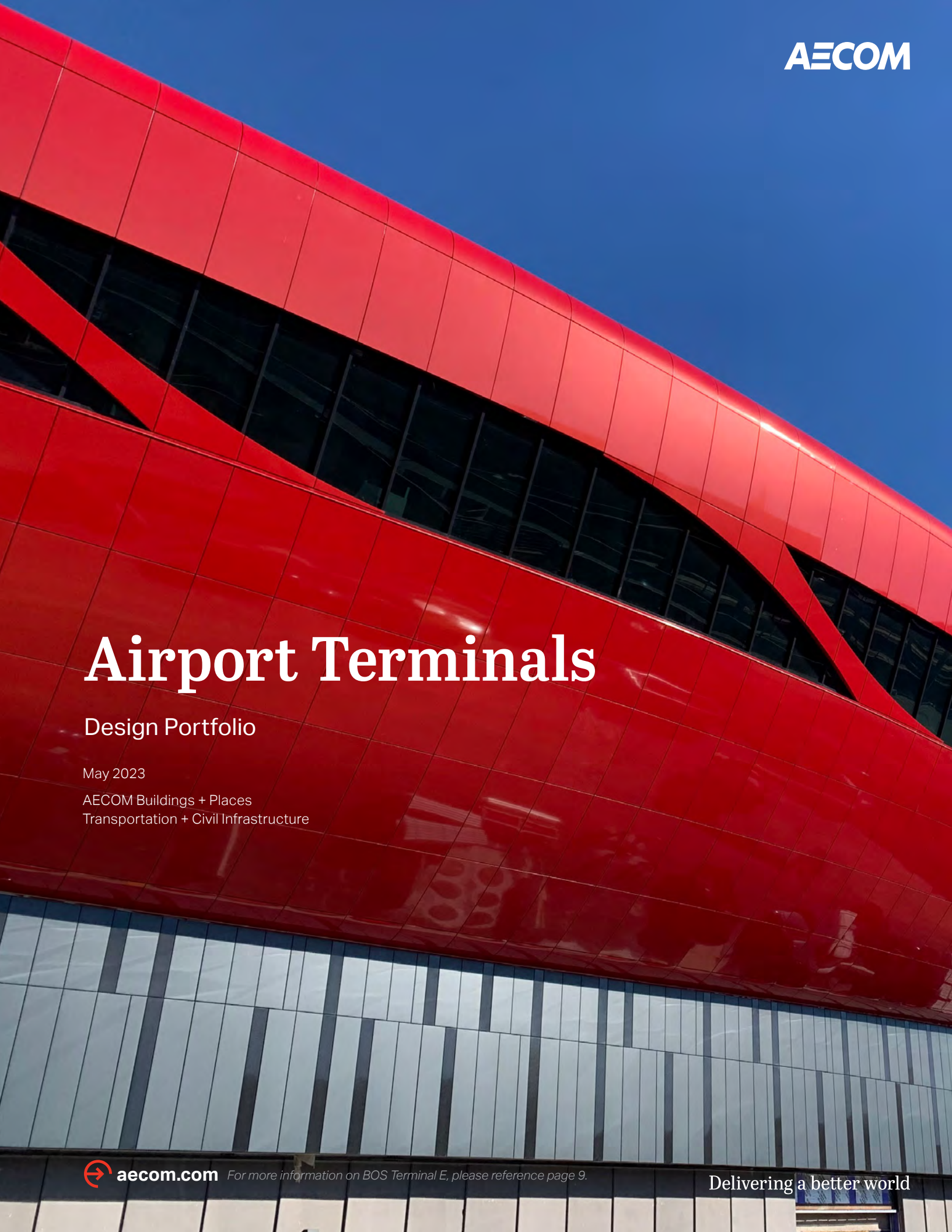


Airport Terminals

Design Portfolio

May 2023

AECOM Buildings + Places
Transportation + Civil Infrastructure

 For more information on BOS Terminal E, please reference page 9.

Delivering a better world

Passenger Experience

Since the first commercial flight in 1914, air travel has dramatically changed the world by bringing mankind closer together and fueling unprecedented economic growth. Airport terminals are the nexus of this transformation—the new front door of every city.

An experience that encompasses far more than travel from point A to point B.

Long lines, delays, and antiquated infrastructure have taken their toll on the passenger experience, making us forget that flight is one of mankind's great achievements. At AECOM, we strive to rekindle an enjoyment of air travel through the airport terminal experience.

Airports have complex pragmatic demands that must be met. We view this as the baseline of design—the starting point of a project. We mesh functional concerns with aspirational opportunities to create spaces that elevate the human condition. An elevated passenger experience enhances the terminal's functional areas by increasing checkpoint throughputs and raising post-security dwell times, ultimately increasing non-aeronautical revenues. In an age of multiple travel options, a premium passenger experience becomes the differentiator.

Longer hold times drive a new kind of space.

An aircraft is entered in one locale and exited in another; this abrupt change of location is quick and efficient, yet it can be disorienting. For long-haul international flights, time zones, cultures, and languages can all abruptly change, leaving passengers jet-lagged, culture shocked, and unable to communicate. Well-designed terminals can gently acclimate passengers and soften the impact of being in a place that's new and different. Today's terminal is a place to do just about anything. In Guangzhou Terminal 2, the headquarters for China Southern Airlines, passengers can rent airside hotel rooms and small capsule hotel rooms to sleep. In development are six theaters, an Omnimax theater, restaurants, and concessions. Passengers can be measured and have clothing made within four hours.

Massport Terminal B Expansion United Concourse, East Boston, MA

Many airlines employ a hub and spoke arrangement where passengers must transfer from one flight to another. Unlike origin and destination passengers who come to the airport and depart shortly after, transfer passengers usually spend more time in the terminal due to their layover. We designed the East Coast hub of Southwest Airlines at BWI Thurgood Marshall Airport for this type of passenger. There is a central food court between the piers where passengers transfer, and we worked with BWI to link and integrate all of the airside piers with concession areas. Transferring through BWI is a very nice experience and passengers can shop, enjoy a meal, read a book, or watch aircraft from an airfield observation gallery, all without leaving the secure airside of the terminal.

Greater longevity is achieved through an immersive approach to design.

Terminals today have become shopping malls with runways and ground transportation. From our experience, providing an inclusive environment that offers a full range of services, concessions, and facilities is more beneficial to airports, passengers, and businesses. Airports are becoming their own separate world where almost anything is possible. We strive to open space and capture movement, bringing impact and efficiency into an overall design concept. We create spaces that are immersive and expressive, all while celebrating travel. Simply put, airports are the new travel destination of the 21st century.

Safety and security are foremost.

At AECOM, safety and security are the foundation of our work. We accomplish this through integrating multiple layers of security into our terminal designs to provide a sound environment and seamless public space. While setback and hardening are keywords in secure design, airports as civic buildings need to have a public and open sense of place. We utilize structures such as water features, berms, and landscaping to provide vehicular separation.

Inside the terminal, security and CCTV systems are integrated within the architecture so that they are inconspicuous and flexible for future technology. The hallmark of sound security design is to provide an unobtrusive facility that also reaps ancillary benefits. At BWI Marshall Airport, AECOM relocated the A and B security checkpoints as part of an expansion effort. Without increasing TSA staffing levels or checkpoint lanes, the replacement checkpoints saw an increased throughput of 16 percent. The light, airy, and column-free space was credited with reducing the stress level of passengers and increasing TSA productivity. Our goal is to provide a safe and secure environment that is imperceptible to the passengers in order to enhance the overall passenger experience.

Overview: About AECOM

#1

Engineering News-Record 2022 Rankings - Airports

#4

Architectural Record Top 300 U.S. Architecture Firms

#4

Interior Design Top 100 Giants Ranking

150+

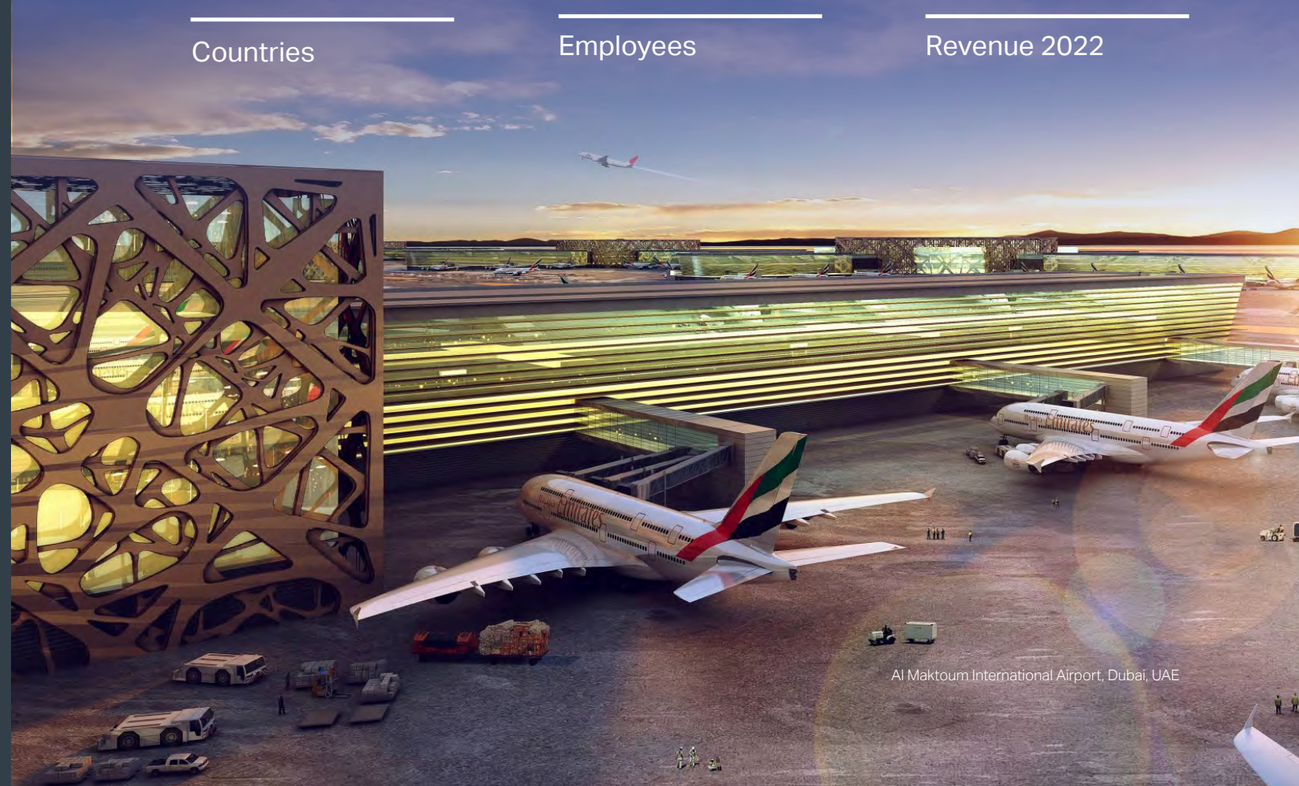
Countries

50K+

Employees

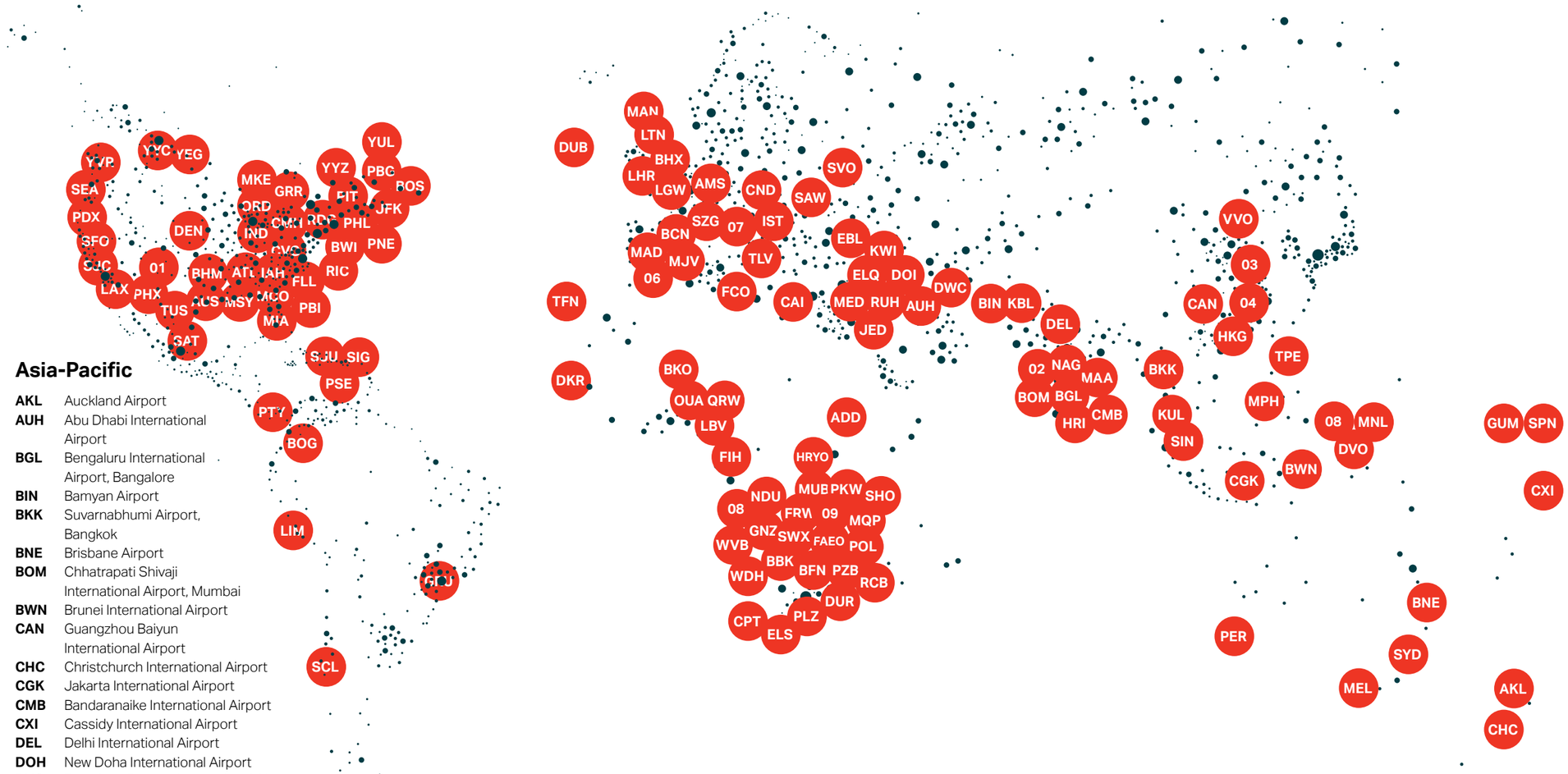
$13.1Bn

Revenue 2022



Al Maktoum International Airport, Dubai, UAE

Global Experience



Americas

ATL Hartsfield–Jackson Atlanta International Airport
AUS Austin–Bergstrom International Airport
BOG El Dorado International Airport
BOS Boston Logan International Airport
BWI Baltimore Washington International Airport
BHM Birmingham-Shuttlesworth International Airport
CMH Port Columbus International Airport
CVG Cincinnati/Northern Kentucky Airport
DEN Denver International Airport
FLL Fort Lauderdale International Airport
GRR Gerald R. Ford International Airport
GRU São Paulo–Guarulhos International Airport
IAH George Bush Intercontinental Airport
IND Indianapolis International Airport
JKF John F. Kennedy International Airport
LAX Los Angeles Airport
LIM Jorge Chávez International Airport, Lima
MCO Orlando International Airport
MIA Miami International Airport
MKE General Mitchell International Airport
MSY Louis Armstrong Airport New Orleans
ORD Chicago O'Hare International Airport
PBG Plattsburgh International Airport
PBI Palm Beach International
PDX Portland International Airport
PHL Philadelphia International Airport
PHX Phoenix Sky Harbour International Airport
PIT Pittsburgh International Airport
PNE Northeast Philadelphia Airport
PSE Mercedita Airport
PTY Tocumen International Airport
RDG Reading Regional Airport
RIC Richmond International Airport
SAT San Antonio International Airport
SCL Comodoro Arturo Merino Benítez International Airport
SEA Seattle-Tacoma Airport
SIG Isla Grande Airport
SFO San Francisco International Airport
SJC San Jose International Airport
SJU Luis Muñoz Marin International Airport Capacity
TUS Tucson International Airport
YEG Edmonton International Airport
YUL Montréal–Pierre Elliott Trudeau International Airport
YVR Vancouver International Airport
YYC Calgary International Airport
YYZ Toronto International Airport
01 Spaceport America

Asia-Pacific

AKL Auckland Airport
AUH Abu Dhabi International Airport
BGL Bengaluru International Airport, Bangalore
BIN Bamyan Airport
BKK Suvarnabhumi Airport, Bangkok
BNE Brisbane Airport
BOM Chhatrapati Shivaji International Airport, Mumbai
BWN Brunei International Airport
CAN Guangzhou Baiyun International Airport
CHC Christchurch International Airport
CGK Jakarta International Airport
CMB Bandaranaike International Airport
CXI Cassidy International Airport
DEL Delhi International Airport
DOH New Doha International Airport
DVO Francisco Bangoy International Airport
DWC Al Maktoum International Airport, Dubai
EBL Erbil International Airport
ELQ Prince Nayef bin Abdulaziz International Airport
GUM Antonio B. Won Pat International Airport
HKG Hong Kong International Airport
HRI Hambantota International Airport
JED King Abdulaziz International Airport, Jeddah
KBL Hamid Karzai International Airport, Kabul
KUL Kuala Lumpur International Airport
KWI Kuwait International Airport
PER Perth Airport
RUH King Khalid International Airport, Riyadh
MAA Chennai International Airport
MEL Melbourne Airport
MNL Ninoy Aquino International Airport
MPH Caticlan Airport
NAG Nagpur Airport
SIN Changi Airport, Singapore
SPN Saipan International Airport
SYD Sydney Airport
TLV Ben Gurion Airport, Tel Aviv
TPE Taiwan Taoyuan International Airport
02 Navi Mumbai Airport
03 SF Express Air Cargo Hub Development
04 New Xiamen International Airport
05 New International Airport, Manilla

Europe and Africa

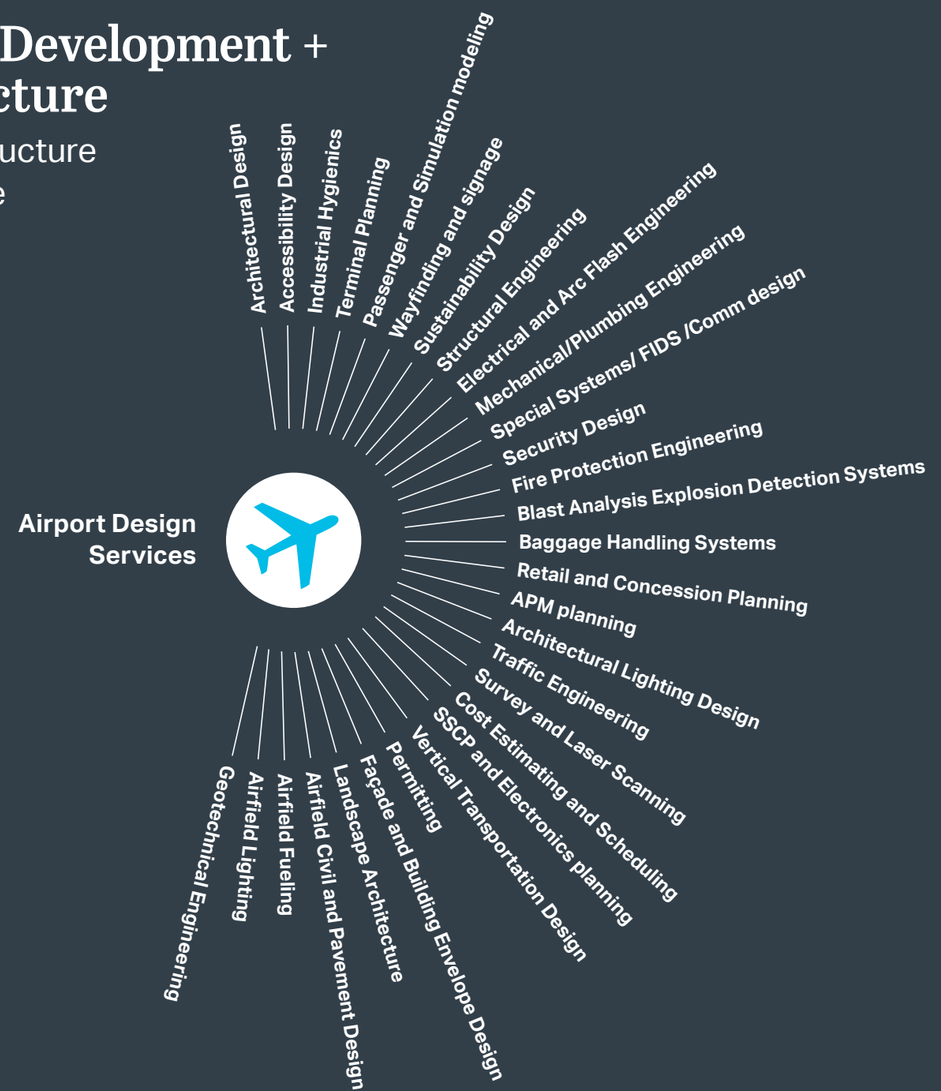
ADD Bole International Airport, Addis Ababa
AMS Amsterdam Schiphol Airport
BBK Kasane Airport, Botswana
BCN Barcelona Airport — El Prat
BHX Birmingham International Airport
BFN Bram Fischer International Airport
BKO Bamako–Sénou International Airport
CAI Cairo International Airport
CND Mihail Kogalniceanu Constanta Airport
CPT Cape Town International Airport
DKR Dakar international airport
DUB Dublin Airport
DUR King Shaka International Airport, Durban
ELS East London Airport
FAEO Ermelo Airport
FCO Rome Fiumicino Airport
FIH Kinshasa International Airport
FRW Francistown Airport
GNZ Ghanzi Airport
HRYO Gabiro Airport
IST Istanbul New Airport
LBV Libreville International Airport
LGW London Gatwick Airport, London
LHR Heathrow Airport, London
LTN London Luton Airport
MAD Madrid–Barajas Airport
MAN Manchester Airport
MUB Maun Airport
MUR Murcia–San Javier Airport
MQP Kruger Mpumalanga International Airport
NDU Rundu Airport
OUA Ouagadougou Airport
PKW Selebi-Phikwe Airport
PLZ Port Elizabeth International Airport
POL Pemba Airport
PRY Wonderboom Airport
PZB Pietermaritzburg Airport
RCB Richards Bay Airport
QRW Warri Airport
SAW Sabiha Gökçen International Airport
SHO King Mswati III International Airport
SVO Sheremetyevo International Airport
SWX Shakawe Airport
SZG Salzburg Airport
VVO Vladivostok International Airport
WDH Hosea Kutako International Airport
WVB Walvis Bay Airport
06 Moron Air Base, Spain
07 Greece Independent Engineers Services
08 New Libreville Airport, Gabon
09 Air Force Base Makhado

What We Do

Our extensive range of expertise means we are able to support any project every step of the way.

Airport Development + Architecture

Civil Infrastructure
Architecture
Interiors
Engineering
Planning



John Glenn Columbus International Airport, Columbus, OH

BOS

Boston Logan International Airport

Boston, MA

Terminal E Modernization (International Air Carriers)

Client

Massachusetts Port Authority

Services

Full Service A/E
- Architecture
- Interiors
- Security Systems

Size

7 new Contact Gate Positions, 122 Ticket Counter Positions, 7 Departure Lounges in two phases, 3 Airline Clubs, new International Arrivals Hall CBP

Status

Under construction (completion 2023)

The project elements include the incorporation of seven wide-body gates, envisioned to be implemented in two phases. It includes the design and engineering of all terminal components, including a new security checkpoint, public concourse and departure lounges, airline clubs, concessions, inbound and outbound bag systems, international arrivals/CBP and all other public and non-public terminal functions to support this significant terminal addition. The project also includes airfield taxi lanes, roadway frontages, airport roadway infrastructure, and limo/taxi pools.

AECOM Architecture Prime Consultant and Architect of Record | luis vidal + architects vision architect

BOS

Boston Logan International Airport

Boston, MA

Terminal E Enhancement - A380 Project

Client

Massachusetts Port Authority

Services

- Architecture
- Interiors
- Engineering

Size

87,000 sq. ft., 3 New Gates, 3 Airline Clubs, Concessions, Baggage Systems, passenger amenities and International Passenger Processing

Client Benefits

- Raised the bar on design quality at a national airport.
- Designed on time and on budget.
- Acclaimed as the best project ever delivered at Massport.
- Strengthens Logan's position in the international market.
- Provides Massport with three new gates that can accommodate A380s and other new large aircraft.
- Proved to Massport that utilizing building information modeling (BIM), and lean design and construction practices (which manage and improve the construction processes, with minimal cost and maximum value by considering customer needs) save both time and money.

Work Performed

AECOM, as prime consultant provided full architecture/engineering (A/E) services for the renovation and expansion at Logan's Terminal E. The program for this $175-million project includes three new gates to accommodate Airbus A380s, an expanded security checkpoint, new concessions, upgrades to the inbound and outbound baggage systems, and processing for international arriving passengers, without checking bags. Also included are three new airline clubs that have direct jetbridge access to the aircraft from the premier lounges. The project includes 100,000 square feet of new construction and over 200,000 square feet of renovated terminal area.

Terminal E, Logan Airport's international terminal, expands as new global destinations and a steady rise in international travel help boost the local economy.

LIM

Lima Jorge Chavez International Airport

Lima, PERU

D-E Connector

Client
Lima Airport Partners (LAP)

Size
5.5 million sq. ft.

Services
- Terminal Planning
- Architecture
- Interiors
- Airside Engineering
- Urban Design
- Master Planning

Program
New Terminal

BOS

Boston Logan International Airport

Boston, MA

Terminal B Expansion (United Airlines)

Client

Massachusetts Port Authority

Services

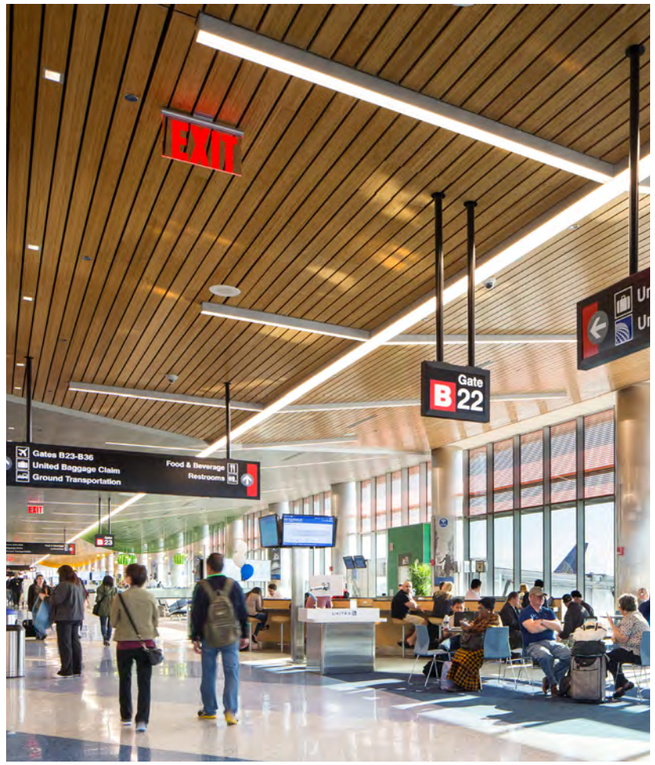
- Architecture
- Interiors
- Engineering

Size

9 Contact Gate Positions, 39 Ticket Counter Positions, 9 Departure Lounges, 8 Checkpoint Lanes, 1 Airline Club

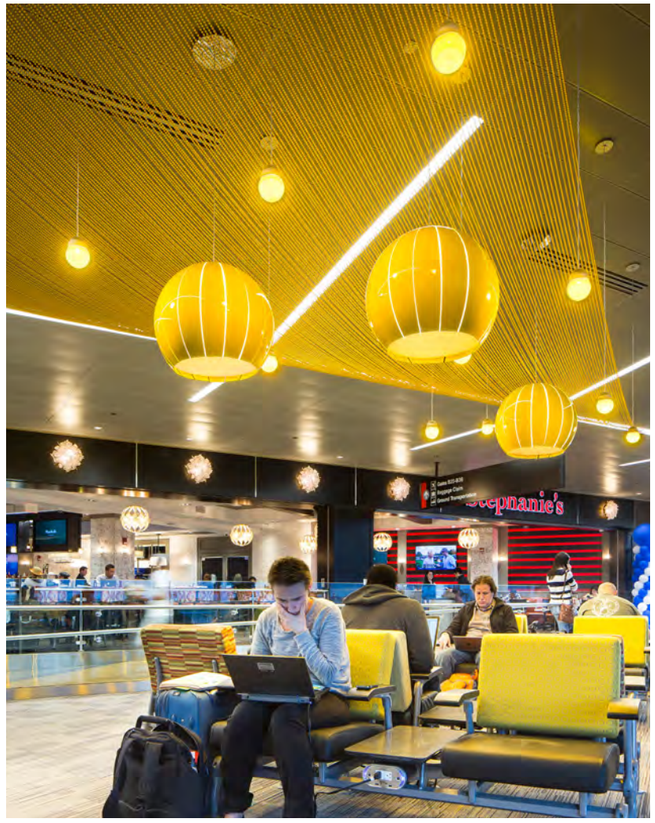
Awards

ENR New England Best Projects of 2014 - Airports/Transit



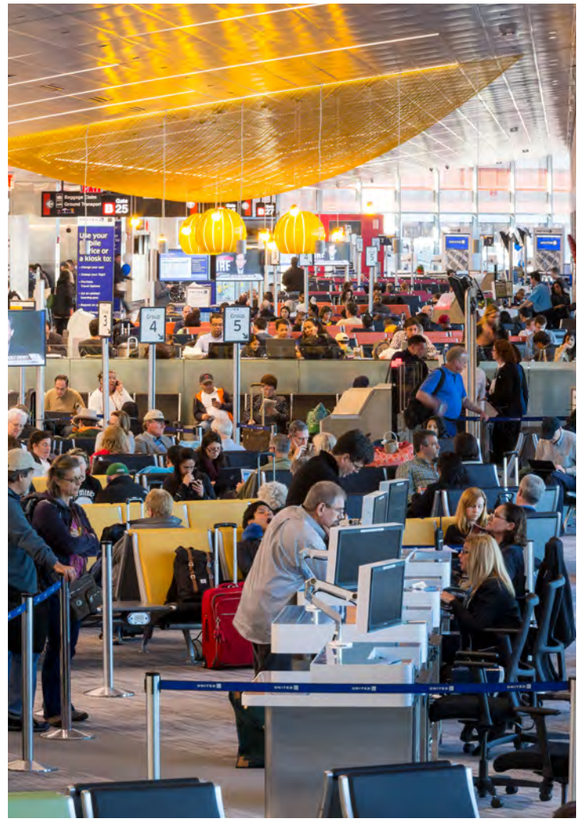
“AECOM did a remarkable job working with us to design a beautiful terminal that meets the functional requirements of Massport, the airlines and passengers alike. This project is unlike anything our customers have seen before.”

Houssam Sleiman, PE, Massport Director



As prime consultant, AECOM provided full planning and A/E design services to Massport for the design of major improvements to Logan’s Terminal B to consolidate the operations of United and Continental airlines. The 97,000-square-foot terminal features eight new departure lounges, new ticketing and baggage claim areas, a new passenger security checkpoint, and a state-of-the-art baggage handling system.

The project features many amenities and conveniences unlike any other terminal at Logan. The terminal incorporates many features to enhance the passenger experience and convenience, including integrating flight and passenger information displays into concessions and passenger boarding areas, fitting all departure lounge seats with mobile device charging capabilities, and establishing special informal lounge seating areas that are equipped with functional workstations and comfortable seating.



BOS

Boston Logan International Airport

Boston, MA

Terminal B Optimization (American Airlines)

The merger of American Airlines and US Airways was accommodated by upgrading Terminal B facilities to meet the airlines' needs, while providing improvements to passengers' traveling experience. This terminal upgrade expanded the facilities at Terminal B to accommodate the merged American Airlines entirely on the Pier B side. The Terminal B Airline Consolidation scope expanded Pier B to provide a single central 8-10 lane checkpoint that replaced three smaller individual checkpoints, an enlarged consolidated ticketing hall, reconfigured vertical circulation, existing CBIS/CBRA feeding an enlarged three-carousel outbound bag area, expanded bag claim hall, 18 contact gate positions for AA, and holdrooms that met passenger seating and boarding requirements at the gates.

Design disciplines involved in the project included geotechnical; civil; architecture; structural; mechanical, electrical and plumbing; fire protection/ life safety; baggage systems; security, communications and IT; FIDS/BIDS; fueling; environmental permitting; sustainable design/LEED; code compliance; cost estimating; simulation modeling; and scheduling.

Client

Massachusetts Port Authority

Services

- Architecture
- Interiors
- Engineering

Size

21 Contact Gates,
8 Checkpoint Lanes


B15-B38
B1-B12


ENGLAND
EVOLUTION


GATES
B1-B3
EXIT

BOS

Boston Logan International Airport (JetBlue)

Boston, MA

Terminal C to E Connector

Client

Massachusetts Port Authority

Services

- Architecture
- Interiors

Size

150,000 sq. ft., 3 New Gates, Concessions and Passenger Amenities

AECOM provided interior design and architectural services for the expansion and renovation to Logan's secure connector between Terminals C and E. The project entails a total transformation of the east end of Terminal C in the form of a new retail rotunda.

The project included shell space for high-end concessions, a secure concourse, departure lounges and a complete renovation and enhancement of the connector. This $60-million project also included new toilet rooms, new terrazzo throughout as well as passenger amenities and enhanced interior finishes and lighting.

The project is targeted for LEED Silver certification.


MASSACHUSETTS
FOUR CENTURIES OF INNOVATION
SECRET
Gates C25-C36
Baggage Claim
Ground Transportation
essentials
Departures
11:10 AM


CHECK-IN
CHECK-IN


jetBlue


ELEVATOR


E INK DRIVES KINDLE
ETHER AS 1ST ANESTHESIA
CHOCOLATE CHIP COOKIE CREATED
BASKETBALL

CAN

Guangzhou Baiyun International Airport

Guangzhou, China

Following the international competition to plan and design its new terminal facility, the GIARH declared AECOM the winner, saying the firm's design captured the spirit of aviation and respected the culture and landscape of China. Indeed, the symmetry of the sweeping metal roofs and arched skylights resonates with the grandeur found in classical Chinese architecture.

Client

Guangzhou International Airport Relocation Headquarters (GIARH)

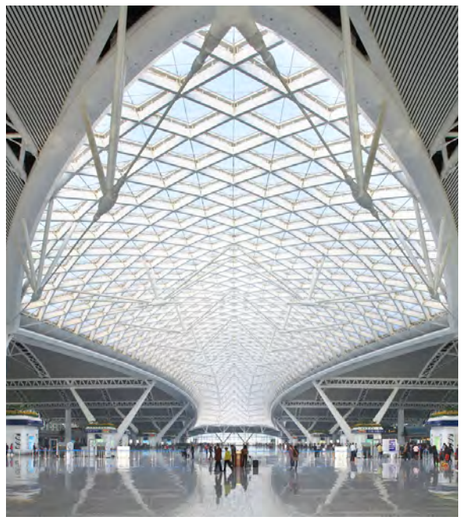
Size

4.52 million sq. ft., 46 Aircraft Gates, 14 Hardstand Aircraft Positions

Services

- Architecture
- Planning
- Engineering

Guangzhou Baiyun International Airport is one of the major gateways to China, and the largest airport in southern China.



The planning is also very Chinese in nature, recalling mandalic temple constructions of the dynastic period.

In most airports, arrival curbs are located under departure curbs in a dark and uninviting space. The Guangzhou arrival and departure curbs are separated, easing vehicular traffic congestion and enabling the arrival curb to receive sunlight and air. The new Guangzhou Airport thus celebrates arrival as well as departure.

A central ticketing hall provides a grand sense of entry for the complex and is designed to make the airport a center for commerce, as well as transportation. It includes a commercial center containing five- and three-star hotels, office buildings, the airline headquarters, and a convention center. Here, business travelers are able to transact business using state-of-the-art facilities. The lower level of the ticketing hall contains a shopping mall and railway station.

In addition to its role as a major gateway to China, Guangzhou is also the home and operational base for China Southern Airlines. These factors have had a tremendous impact on Guangzhou's air traffic. Its average passenger flow has increased an average of 5.2 percent per year and has now reached 45 million passengers per year. Correspondingly, air traffic has seen a 15 percent increase per year and air cargo capacity has risen. This increase in activity has made Guangzhou Baiyun International Airport the second busiest airport in China based on passenger flow, and the third largest based on cargo movement. Our design is expandable and will allow the airport to continue to grow, from 60 contact gates in Phase 1 to more than 130 contact gates in the future. A second central ticketing terminal is also planned as the number of airlines coming into Guangzhou expands.

This project was completed by URS, which became a part of the AECOM family of companies in October 2014.

KWI

Terminal T4 Kuwait International Airport

Kuwait, Saudi Arabia

Client
Cengiz Insaat

Services
- Terminal Planning
- Architecture
- Interiors
- Landscape Architecture
- Building Engineering

Size
592,000 sq. ft.
New Terminal

Program
New Terminal, 650-Car Parking Garage, Support Buildings

KWI

Terminal T2 Kuwait International Airport

Kuwait, Saudi Arabia

Client
Foster + Partners

Services
- Terminal Planning
- Architecture Performance Design
- BIM Management

Size
8 million sq. ft. New

Program
New Terminal Design


KUWAIT AIRWAYS

CTG

Rafael Nunez International Airport

Cartagena, Colombia

Client

Cartagena Airport

Services

- Terminal Planning
- Architecture
- Interiors
- Building Engineering
- Airside Planning
- Landside and Airside Civil Engineering
- Security Systems Design

Size

500,000 sq. ft.

Program

- New Terminal + Support Buildings
- Cargo Building
- ATCT


T3

Chinchero International Airport

Cuzco, Peru

Client

JV Natividad Chinchero (Hyundai, ICA, Power China, HV Contratistas)

Services

- Terminal Planning
- Architecture
- Interiors
- Building Engineering
- Airside Planning
- Landside and Airside Civil Engineering
- Security Systems Design
- Vertical Transportation
- Asset Management

Size

500,000 sq. ft.

Program

New Terminal

BDL

Bradley International Airport

Windsor Locks, CT

Client
Connecticut Airport Authority

Size
1 million sq. ft. New (all phases)

Services
- Terminal Planning
- Architecture
- Interiors

Program
New Terminal Design

CIX

Chiclayo International Airport

Lambayeque, Peru

Client

Aeropuertos del Peru (AdP)

Size

400,000 sq. ft.

Program

New Terminal + Support Buildings

Services

- Terminal Planning
- Architecture
- Interiors
- Building Engineering
- Airside Planning
- Landside and Airside Civil Engineering
- Security Systems Design


AEROPUERTO INTERNACIONAL CORONEL ARTURO QUIÑONES GONZALES
Bienvenidos Welcome

DCA

Ronald Reagan International Airport

Arlington, VA

Secure National Hall

Client

Metropolitan Washington Airports Authority (MWAA)

Size

115,000 sq. ft. New
285,000 sq. ft. Renovation
New Public Secure Hall
New Security Checkpoint

Services

- Terminal Planning
- Architecture
- Interior Design
- Airside Civil
- BHS
- MEP
- Security
- Structural Engineering

AECOM transformed the existing iconic Caesar Pelli National Hall-Terminal B/C from a non-secure landside terminal environment to a secure airside terminal environment. This transformation affords passenger movement among gate piers conducive to a hub-type operation and will energize National Hall as passengers now cleared through security screening will be more inclined to explore and consume an enhanced concessions program, generating non-aeronautical revenue for the airport and creating a 21st-century airport experience for passengers. The creative solution requires the creation of two security screening checkpoints that are sandwiched between the elevated departures roadway and arrivals roadway of Terminal B/C, while adjacent to both the north and south existing pedestrian bridges that connect to the regional Metro station.

PHL

Philadelphia International Airport

Philadelphia, PA

Client

Confidential

Size

247,000 sq. ft. New
52,000 sq. ft. Renovation

Program

New Terminal Headhouse

Services

- Terminal Planning
- Architecture
- Interiors
- BHS Systems

BWI

BWI International Airport

Baltimore, MD

Terminal A-B Connector Design Competition

Client

Maryland Aviation Administration

Size

138,000 sq. ft. New
44,000 sq. ft. Renovation

Services

- Terminal Planning
- Architecture
- Interiors
- BHS Systems
- MEP Engineering
- Structural Engineering

PBG

Plattsburgh International Airport

Clayton County, NY

Client

Clinton County, NY +
McFarland Johnson

Services

- Terminal Planning
- Architecture
- Interiors
- BHS Systems
- IT/COMM

Size

100,000 sq. ft. New
35,000 sq. ft. Renovation

Program

New Terminal


DO NOT ENTER
Entrée interdite
Women's Restroom
Femmes toilettes
All Gates
Toutes les portes
Ticketed Passengers Only
Seuls les passagers munis d'un billet
Men's Restroom
Hommes toilettes


STOP

JFK

John F. Kennedy International Airport

Jamaica, Queens, NY

American Airlines, Terminal 8 Replacement

AECOM provided architecture and interior design services for this $1.3-billion terminal complex located on a 42-acre site adjacent to the existing American Airlines facility. Specifically, the new 2.28-million-square-foot, 56-gate project consists of a terminal and three concourses. The 56 gates comprise 38 for large jets, including the Boeing 777, and 18 gates with covered jet bridges for regional jets operated by American Eagle. There are international,

Client

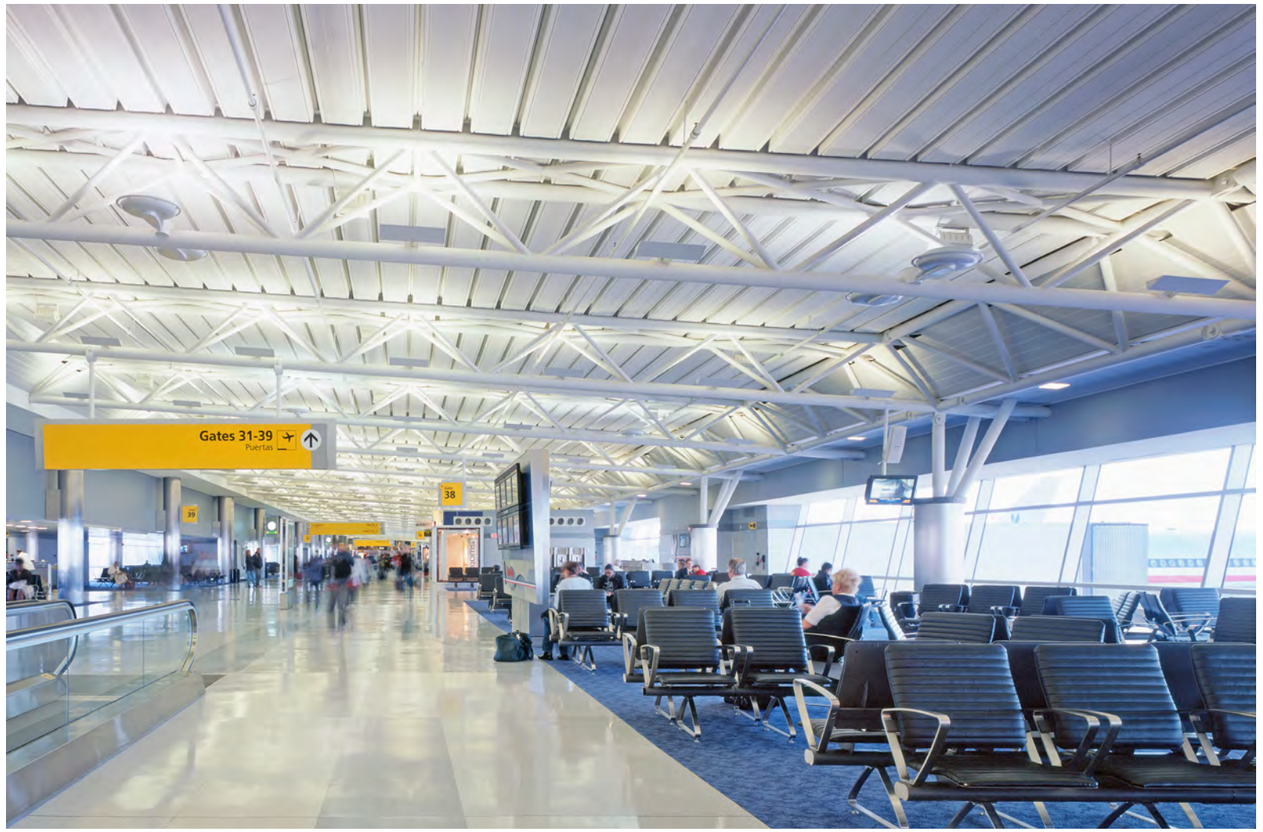
Port Authority of New York/New Jersey; American Airlines

Size

2.28 million sq. ft., 56 Gates, 3 Concourses, Baggage System

Services

- Architecture and Design
- Engineering
- Planning and Consulting
- Program Management
- Construction Management



domestic, and swing-gates among the 38 gates allocated to the large jets. The full terminal was constructed in four phases to allow continued operations at JFK.

The finished terminal includes three primary levels: arrivals and baggage handling; departures; and clubs, lounges, and offices.

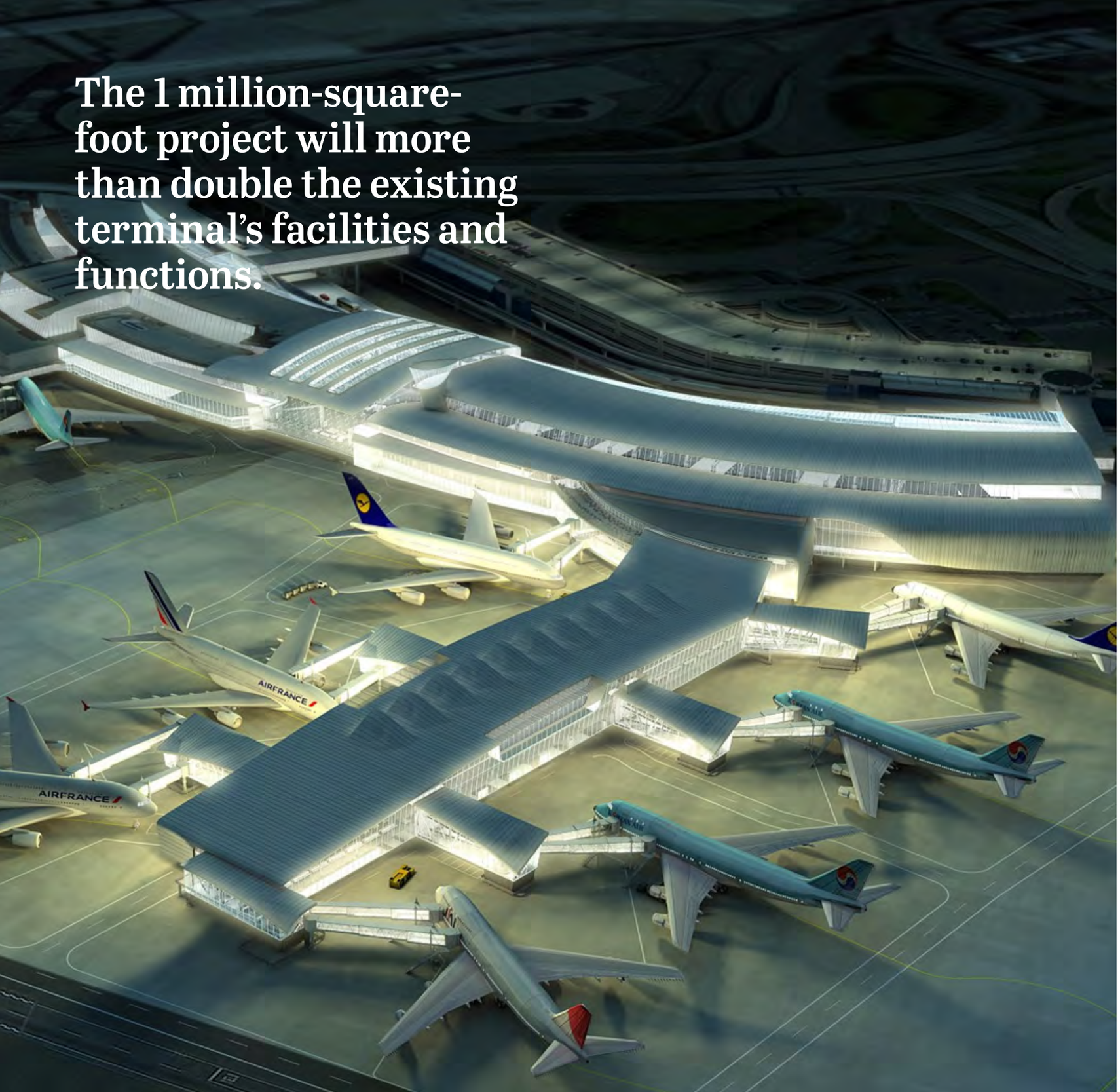
A new two-level roadway provides separation between arrivals and departures, each level with 1,200 linear feet of curb space. There are 24 curbside check-in positions and 200 check-in positions at the main ticket counter.

The building's four concourses, three extending from an central terminal area and one connected to the terminal by a 320-foot underground tunnel with moving walkways, will process 14 million passengers a year.

The terminal also includes a customs and immigration facility with 22 customs positions, 48 immigration positions, and seven baggage claim carousels, each with 250 linear feet for baggage pickup. It has the capacity to serve up to 2,400 people per hour.

The new terminal is connected to the monorail transit system at JFK International. AECOM worked closely with the monorail design and construction teams to ensure coordination. Approximately 110,000 square feet were devoted to concession space, creating a virtual mall for shops, restaurants, and other retail outlets. Also included were two Admirals Clubs, two Platinum Business Centers, a first-class arrivals lounge, and a 10,000-square-foot lounge for use by other carriers.

A project designed to accommodate a new class of jet, process more passengers, and provide an improved passenger experience from arrival to departure.



The 1 million-square-foot project will more than double the existing terminal's facilities and functions.

JFK

John F. Kennedy International Airport

Jamaica, Queens, NY

Terminal 1 Expansion

Terminal One Group Association (TOGA) commissioned a feasibility study to review the possible expansion of their existing facility. We provided A/E services over a 14-month period for the development of a conceptual design and pre-schematic design in support of the project. The design considered apron utilization, aircraft maneuverability and parking; sizing and configuration of ticketing positions and associated queuing; location and sizing of a consolidated security screening checkpoint (SSCP) and associated queuing; holdroom sizing and passenger movement; quantity, type, and location of concessions; vertical circulation; location and sizing of airline lounges; spatial requirements for support functions such as airline ticket offices and operations; expansion of the existing arrivals and departures level roadways systems; and utility relocations and upgrades required to support the expanded terminal facility. An overall construction phasing strategy focused on identifying tasks and minimizing impact to existing terminal and aeronautical operations.

The program entails a 1 million-square-foot expansion designed to more than double the facilities and functions of the existing terminal. The expansion includes a head house sized to double the number of existing ticketing positions and house consolidated SSCP and FIS functions. The overarching theme of the proposed concept is to have the two parts function as one unified facility in its operations, passenger level of service and flow, and architectural aesthetics. The successful functionality of any terminal expansion depends on a well-orchestrated working relationship between the terminal and the adjacent landside and airside components. It is critical during design that the landside and airside portions of the project are developed in unison with the terminal expansion so that these elements work seamlessly.

It is the desire of the ownership group to have equality of amenities and finishes throughout the unified facility. As such, part of the program involves renovation of the existing concourse and airline lounges to provide the same customer level of service and experience on both concourses and to aesthetically unify the facility as one.

BWI

Thurgood Marshall BWI International Airport

Baltimore, MD

D-E Connector

Client

Maryland Aviation Administration

Size

120,000 sq. ft. New
85,000 sq. ft. Renovation

Program

New Terminal

Services

- Terminal Planning
- Architecture
- Interiors
- BHS Systems
- Security Systems
- Structural Engineering


Concourse E
Concourse D
STARBUCKS COFFEE
Restrooms
Baggage Claim

BWI

Thurgood Marshall BWI International Airport

Baltimore, MD

Pier E Extension

Client

Maryland Aviation Administration

Size

40,000 sq. ft. New
38,000 sq. ft. Renovation

Program

New Terminal Pier Extension

Services

- Terminal Planning
- Architecture
- Interiors
- BHS Systems
- MEP Systems
- Security Systems
- Structural Engineering

BWI

Thurgood Marshall BWI International Airport

Baltimore, MD

Terminal A | B

Client

Maryland Aviation Administration

Services

- Architecture
- Engineering

Size

560,000 sq. ft.,
26 Contact Gates

A $500-million renovation project requiring a completely new approach to security requirements with no change to footprint.

After years of record growth, the Maryland Aviation Administration (MAA) and Southwest Airlines (SWA) turned to AECOM to provide programming, design, and construction phase services for a terminal expansion at Baltimore/Washington International Thurgood Marshall Airport (BWI). The expansion would encompass 586,000 square feet and allow an additional 200 flights per day. In 2000, we began programming the new terminal and developing a design that addressed a highly constrained site with limited room between the existing terminal roadway and runway. Our team provided full design services, including architectural, civil engineering, structural engineering, HVAC, plumbing and fire protection engineering, electrical engineering, security and special systems design, as well as baggage handling systems.

The terminal was the crown jewel of the $500-million terminal expansion program, which included 26 new and remodeled gates serviced by a new ticketing lobby, new curbside roadway, bridges, skywalk, parking circulation, and taxiways.

In mid-design, the events of 9/11 required a radical rethinking of the security components of the project. Our design team worked closely with the MAA, SWA, and government agencies (which later coalesced into the TSA), to analyze the new demands for fully integrated baggage screening, and increased/expanded security checkpoints. We then modified the design to address these new realties, all while staying within a reduced footprint.

This project was completed by URS, which became a part of the AECOM family of companies in October 2014.

CMI

John Glenn Columbus International Airport

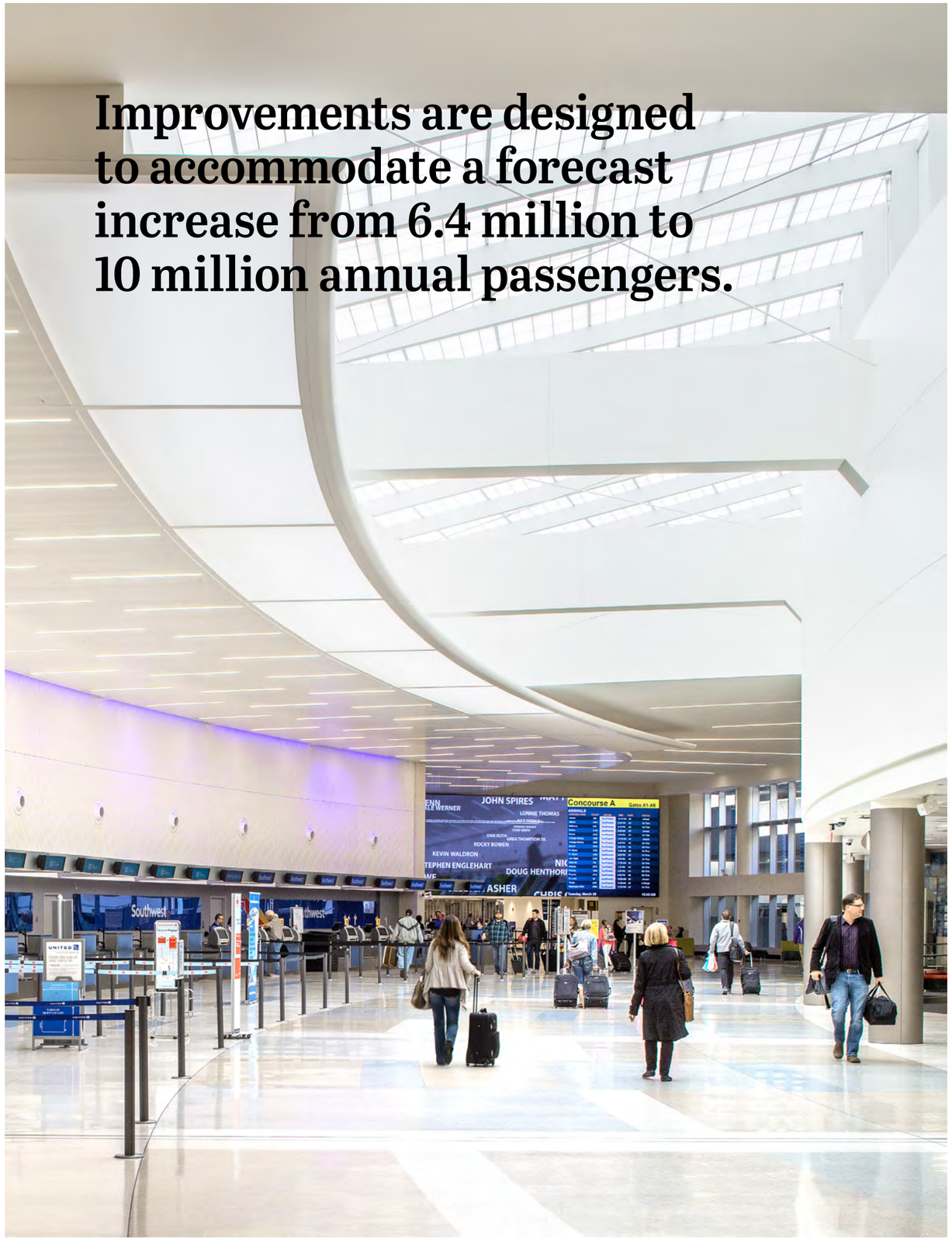
Columbus, OH

Client
Columbus Regional Airport Authority

Services
- Architecture
- Engineering

Size
320,000 sq. ft.

Improvements are designed to accommodate a forecast increase from 6.4 million to 10 million annual passengers.



John Glenn Columbus International Airport is modernizing its entire terminal complex and selected our team to design the improvements that will bring a new face to Port Columbus. The $80-million program includes renovating the public spaces of three concourses, new security screening checkpoints, redistribution of their concession spaces, and an overhaul of their existing ticketing lobby. Building systems upgrades for communications infrastructure, HVAC, and lighting are included.

The design opens the windowless ticketing lobby to natural light to provide an inviting space and reduce lighting costs. New finishes, flooring, skylights, and multi-story windows will bathe the terminal in natural light and bring the terminal into contemporary design standards. The program includes options for the latest in common use passenger processing (CUPPS) and self-service (CUSS) as well as provisions for self-baggage tagging and drop. The CMH Terminal serves American, Delta, Air Canada, Southwest, United, and US Airways among others.

This project was completed by URS, which became a part of the AECOM family of companies in October 2014.

KCI

Kansas City International Airport

Kansas City, MO

Terminal Design Competition

Kansas City International Airport's three-terminal layout was designed in the 1960s and opened in 1972 before passenger and baggage screening were required. The last two KCI Master Plans recommended building a new, single terminal for added convenience and efficiency. Subsequently, the city issued an RFP for a public-private partnership (P3) development of the new single terminal.

In July 2017, AECOM was one of four proposals considered for the new $1.5-billion terminal designed to encompass 750,000 square feet, 42 gates and a new parking structure.

Client

Kansas City
International Airport

Size

750,000 sq. ft.
42 Gates, 6,000-Car Garage

Services

Design (P3 Design Competition)


CAIN
WORLD SERIES
GAME 1
NATS

PIT

Pittsburgh International Airport

Pittsburgh, PA

Terminal Design Competition

Client

Pittsburgh Airport | Allegheny Airport Authority

Services

Full Service A/E

Size

500,000 sq. ft. New
500,000 sq. ft. Renovation
Terminal Expansion
New Security Checkpoint
New Building Systems


TICKETING
TICKETING

ACY

Atlantic City International, Terminal Expansion and Mini FIS

Atlantic City, NJ

Client

South Jersey
Transportation Authority

Services

- Architecture
- Engineering

Size

74,000 sq. ft. Expansion, FIS, 3 Departure Lounges

AECOM provided full A/E services for the planning, programming, design, and engineering of a two-level 74,000-square-foot expansion of the Atlantic City International Airport Passenger Terminal. The program includes three new departure lounges and jet bridges, a mini-federal inspection station (FIS) to process arriving international flights, new post-security retail concessions, a new loading dock, new airport operations space, an expanded airside apron accommodating wide-bodied aircraft, an automated exit lane, a new inbound bag room with three bag claim devices (one swing for international arrivals), three new baggage service offices, and an expanded meeter/greeter area. The FIS is sized to process a B767 arriving international flight. The project was designed to accommodate future expansion of an additional concourse for seven to nine gates as demand at the airport continues to grow.

UPS Airlines Worldport Expansion

Louisville, KY

The creation and multi-phased expansion of Worldport (previously named Hub 2000 in Phase 1), the mega hub at the heart of UPS's global transportation network, was executed by AECOM as lead architect/engineer and Hunt Construction Group as construction manager.

Phase 2 North Expansion
The Worldport North Expansion was a 1.1-million-square-foot addition to the original Hub 2000 structure designed previously by AECOM.

Phase 3 South Expansion
The Worldport South Expansion design began with a concept development study performed in 2006. When constructed, this phase will consist of a 300,000-square-foot addition to the existing high bay structure, a final aircraft unload wing at 450,000 square feet, and connections to the existing original Grade Lane Hub sort building.

Client

United Parcel Service

Services

- Architecture
- Engineering

This project was completed by URS, which became a part of the AECOM family of companies in October 2014.

ONT

Ontario International Airport

Ontario, CA

One of AECOM's earliest terminal projects, the Ontario International Airport continues to rank among the busiest airports in the world and provides a vital link in the Los Angeles World Airports network. AECOM was commissioned to respond to the airport's anticipated growth by providing the master planning, design, and engineering services required for the expansion of the airport's terminal area facilities.

The project included a two-terminal passenger facility able to accommodate 10 million passengers annually. Development also included an extensive taxiway apron expansion, expanded surface parking, and the design of roadway and taxiway systems and other airfield improvements conforming to the new location. The new terminals were designed as a two-level, 530,000-square-foot complex composed of two main terminal buildings, or nodes.

The design incorporated several forward-thinking concepts, including telecommunication links for future electronics, increased airport security features, and utility connections for retail.

Client

Los Angeles World Airports

Services

- Master Planning
- Architecture
- Interiors
- Building Engineering
- Airfield Design and Engineering

Size

530,000 sq. ft., 26 Gates

Spaceport America, Terminal and Hangar Facility

Upham, NM

Client

New Mexico Spaceport Authority

Services

- Building Engineering
- Master Planning
- Design Criteria

Size

110,000 sq. ft.

Spaceport America demonstrates our ability to pioneer complex and unique buildings, understand clients' needs, and cultivate creativity.

AECOM and world-renowned architectural firm Foster + Partners joined together to lead an international team with the unique honor of designing the world's first purpose-built commercial spaceport: The Virgin Galactic Gateway to Space at Spaceport America. At the building's dedication ceremony in 2011, Virgin Galactic founder, Sir Richard Branson, remarked of the finished product, "We knew the building had to be a landmark of iconic architecture and at the cutting edge of environmentally sustainable design. They succeeded on every front....It's truly a 21st-century building for a 21st-century business."

The 110,000-square-foot, LEED Gold facility is both a terminal and a hangar for the commercial spaceline, Virgin Galactic. It includes state-of-the-art engineering and architectural features highlighted by an underground labyrinth passive thermal storage cooling system, a 46-foot-high mechanically stabilized earth wall, and an innovatively simple structural steel framing system specifically developed to create a signature architectural form at the least cost.

AECOM was responsible for all of the project management and engineering, including structural, mechanical, electrical, fire protection, plumbing, and civil. Initially, AECOM worked with the State of New Mexico to develop a site plan and design criteria to attract the project to the state.

LAX

Los Angeles International Airport, Central Terminal Improvements

Los Angeles, CA

Development and Modernization Program

Client

Los Angeles World Airports

Size

15,350 sq. ft. (Roadway and Light Ribbon); 28,750 sq. ft. (Canopy) 91 Custom-Designed Light Poles

Services

- Architecture
- Landscape Architecture
- Lighting Design
- Cost Consulting

The Los Angeles International Airport (LAX), one of the world's busiest airports, is undergoing a major renovation. As part of a multi-phase project, AECOM is working with Los Angeles World Airports (LAWA) in several capacities to deliver the multi-year master plan implementation as program managers and as architects to provide design and design support for several components as the master plan project progresses.

One of the early assignments for AECOM was to develop a strategy that would have immediate impact to address one of LAX's most visible challenges: its collection of terminals, which were designed over time with no architectural cohesion. For the 61 million passengers who travel in and out of LAX annually, LAX can seem disjointed and difficult to navigate. As the master plan progresses and access, terminal upgrades, and parking are updated, AECOM has designed a system that provides architectural hierarchy. Through an artful integration of lighting, graphics, and architecture, the design draws from key existing airport elements such as the 1960s architecture of the Theme Building and the 60-foot polychromatic light pylons that define the airport's entry. The Central Terminal Area has been articulated with an illuminated glass ribbon that defines the roadway edge and is modulated with white sculptural light poles every 60 feet—establishing an unprecedented ceremonial airport experience. This illuminated ribbon is synchronized with the entry pylons, and the light poles emulate the Theme Building's optimistic architecture. In addition to the light ribbon are three-dimensional super-graphic terminal identifiers.

Working with one of the world's busiest airports to address long-term planning and immediate solutions.

The project amplifies at LAX's largest and newest terminal, Tom Bradley International. A series of aerodynamic metallic canopies have replaced the existing structures and created a new curbside environment. The improvements include a 1,000-foot roadside canopy, three entry pavilion canopies with integral skylights, and two new escalator and stair canopies that link the arrival and departure levels. The scheme functions as a kit of parts that has been easily phased and extended as future enhancement projects have rolled out.

AECOM, in association with Fentress Architects

SEA

Seattle-Tacoma International Airport

Seattle, WA

North Satellite Modernization

AECOM led the design team for the 468,000-square-foot expansion and modernization of this 40-year-old satellite concourse. The Port of Seattle partnered with Alaska Airlines to envision new processes and operations in a facility with Alaska as the sole airline tenant, at their home airport.

The North Satellite (NSAT) modernization is a 50-percent expansion and complete architectural redesign with seismic upgrade and all new building systems (MEP-FP, comm, security, PCAir, and 400 Hz power). The project adds eight contact gates (total of 20), Alaska's flagship lounge, holdrooms,

Client

Port of Seattle

Services

- Architecture
- Civil
- Geotech
- Aircraft Fueling
- Regulated Materials
- Comm/Security

renovated transit station, concessions, art, expanded baggage handling, and airline/airport offices and support spaces.

Construction on the $500-million project was done in two phases to maintain Alaska's operation. Phase 1, the expansion, opened in 2019. Phase 2 renovated the existing facility and opened in 2021. The project achieved LEED Silver.

The NSAT modernization also upgrades the loop transit system serving the North Satellite with a full renovation of the 10,000-square-foot Concourse C station. Completed in 2019, the $7-million station renovation has four new widened escalators, new elevator, updated building systems and finishes to improve safety, energy efficiency, and reliability. Open circulation and integrated glass art intuitively guide travelers between the station and main concourse.

IST

Istanbul Airport

Istanbul, Turkey

Air Traffic Control Tower

Our winning submission for Istanbul Airport's Air Traffic Control (ATC) tower saw us partnering with Pininfarina — the design house renowned for its car designs for Ferrari and Alfa Romeo, among others.

This collaboration combines the expertise of AECOM's architectural and engineering teams with Pininfarina's distinctive architectural style that, influenced by automotive design, epitomizes speed and movement.

The ATC tower will stand as a landmark for Istanbul Airport, which is set to be the world's largest new airport in terms of annual passenger capacity. The competition's scope was to deliver concept designs for the tower that showcased contemporary sustainable architectural design and reflected the history and multicultural character of Istanbul city.

The AECOM and Pininfarina design evokes the aerodynamic forms used in automotive and aviation design, and includes an elliptical tower that will be visible to all passengers flying in and out of the new airport. The tower shape is inspired by the tulip, which has been the symbol of Istanbul for many centuries and is an important cultural reference in Turkish history.

Client

Istanbul Grand Airport

Services

- Airside Designer
- Master Planning
- Airside Infrastructure

Size

295 feet, 65,000 sq. ft., 17 stories, Control Room, Cafeteria, Gym, Offices, Conference and Meeting Rooms

Air Traffic Control Tower of the Future

National Deployment

Design Competition

Client

Federal Aviation Administration

Services

- Architecture
- Engineering

Size

225 feet tall tower
Administrative Base Building 10,700 sq. ft.

The FAA has more than 100 aging control towers that need replacement in the near future. In response to that challenge, the FAA launched an international design competition to totally rethink how the towers work and what they look like.

Out of a field of over 100 submissions, AECOM was shortlisted by the FAA as one of six firms competing to design the next generation of ATCTs. AECOM's innovative design proves that we think outside of the box and have the right talent to innovate across all disciplines to design and deliver cutting-edge solutions to complex architectural and engineering problems.

Our design proposed an intelligent approach to create a high-profile prototype that can be designed, built and operated sustainably. In addition to being uber-constructable – it is just as easily de-constructable.

The design innovations offer a unique solution that is scalable, modifiable, modular, repeatable and can be rapidly constructed on any site in the U.S. Where the norm over time has been to design a single prototype and then tediously site adapted to in any given location – AECOM's approach is to design all of them at once by creating a streamlined design process revolving around an intelligent, interactive, and automated design tool that redesigns the prototype – literally – to any site, any place, any climate, and any context. The future is now.

DAY

Dayton International Airport

Dayton, OH

Air Traffic Control Tower

Client

Federal Aviation Administration

Services

- Architecture
- Engineering

Size

225 feet tall tower
Administrative Base Building 10,700 sq. ft.

ORD

Chicago O'Hare International Airport

Chicago, IL

North Airport Traffic Control Tower

Client

Federal Aviation Administration

Services

- Architecture
- Engineering

Size

250 feet tall tower

The North Airport Traffic Control Tower (NATCT) at Chicago's O'Hare International Airport is one of two new control towers needed (in addition to the existing control tower) to effectively control the new, reconfigured, and expanded runway system being completed under the O'Hare Modernization Program.

The NATCT, in combination with the existing and a future south tower, provide the City of Chicago with an opportunity for a new image from afar: a gateway, an icon, a lantern—a landmark that provides wayfinding within the vast six-and-a-half square mile airport. The form of the tower was derived from a combination of functional requirements and the desire to create a new icon that was recognizable from far away roads and thoroughfares, thus guiding and orienting people to their airport destination. The unique design of the control tower cab, which has only two columns supporting the roof, provides air traffic controllers with enhanced, unobstructed views of the airport.

Extensive analysis, modeling, and full-size mock-ups at the FAA's Technical Center in Atlantic City, New Jersey, allowed the designers and engineers to closely coordinate the location and size of the two columns to minimize the visual obstructions. The cab of the control tower was modified from the traditional concentric shape to an elongated oval shape. This design provided improved visibility in the East-West direction, the primary directions air traffic controllers' need to see for managing traffic on the new north Runway, 9L/27R. The entire tower is constructed of cast-in-place concrete to take advantage of the inherent strength of monolithic concrete structures.

The entire facility has been designed to resist air-blast effects from the detonation of explosive weights located 300 feet and 100 feet from the face of the buildings in accordance with FAA Order 1600.69B.

BOS

Boston Logan International Airport, Terminal E

Boston, MA

Air France Lounge

AECOM provided architectural and interior design services to renovate an existing vacant club space at Logan's Terminal E into a new 6,000-square-foot first class lounge for Air France, within a limited budget and a 12-week timeframe.

All new lighting and air handling were provided to coordinate with the updated layout. The existing kitchen and toilet rooms were also upgraded to modern standards and codes. Existing built-in counters were adapted to meet accessibility codes and resurfaced with updated and upgraded finishes to meet the client's aesthetic requirements. New ceilings and floors were installed to offer an atmosphere of quiet repose and casual dining while waiting for flight departures.

To meet the high standards of Air France lounges, internationally, plush leather seating was provided throughout the club. Natural, white maple veneer paneling, millwork and furnishings adorn the lounge and offer the traveler ultimate comfort and ease.

Client

Massachusetts Port Authority

Services

- Architecture
- Interior Design

Size

6,000 sq. ft.

BOS

Boston Logan International Airport, Terminal E

Boston, MA

British Airways Lounge

AECOM provided design development and architect of record services for the new British Airways Lounge at Logan International's new Terminal E addition. The new 10,000-square-foot premium passenger lounge, located on the fourth level immediately above the new British Airways Gate 12, presents exceptional passenger amenities.

The Lounge provides a private entrance and elegant Reception with a custom tile backwall. First class dining, club dining and servery afford hot and cold food service. Supporting food offerings is a full-service kitchen, with cooking, food prep, dry storage and cold storage. Three general lounges, a study and business center provide

Client

Massachusetts Port Authority

Services

- Architecture
- Design

Size

10,000 sq. ft.

quiet relaxation and work areas. The Horseshoe Bar provides a sit-down and stand-up bar with panoramic views of downtown Boston and ample table and banquet seating. Other amenities include toilet rooms and showers. Custom light fixtures and original art provide a unique touch. Wi-Fi and power are provided throughout. Passenger boarding of Gate 12 aircraft is accommodated directly from the lounge.

“The AECOM design team did a great job on our Boston lounge. They were a pleasure to work with and paid attention to every little detail. The results were excellent.”

Joe Xenakis, Airport Manager, British Airways

HKG

Hong Kong International Airport

Chek Lap Kok, Hong Kong

Singapore Airlines Lounge

Singapore Airlines contracted AECOM to develop three VIP lounges in London, Hong Kong and Manila. AECOM was contracted for the full design services for architecture and engineering services, including full construction administration and cost control.

The project in Hong Kong, highlighted here, was particularly challenging as the leasehold for the lounge had very low floor-to-floor heights, and was located directly above the immigration counters. Installation of showers and restrooms created, as well as the implementation of kitchen ventilation and general air-conditioning units demanded innovative solutions to optimize the design, and create spaces that reflect the new Singapore Airlines lounge concepts.

Client

Airport Authority Hong Kong

Services

- Architecture
- Engineering

“The new first and business class lounges in Hong Kong were a big challenge to implement the new vision and criteria, as there are several site constraints. AECOM architecture was able to transform our ideas into a reality.””

Lim Hong Choo, Senior Manager Properties, Singapore Airlines

The award-winning design is being implemented across the globe. AECOM services included complete design of all furniture and partition walls. AECOM inspected and approved all items incorporated into the design of the lounge.

ABOUT AECOM

AECOM is the world's trusted infrastructure consulting firm, delivering professional services throughout the project lifecycle – from advisory, planning, design and engineering to program and construction management. On projects spanning transportation, buildings, water, new energy and the environment, our public- and private-sector clients trust us to solve their most complex challenges. Our teams are driven by a common purpose to deliver a better world through our unrivaled technical and digital expertise, a culture of equity, diversity and inclusion, and a commitment to environmental, social and governance priorities. AECOM is a Fortune 500 firm and its Professional Services business had revenue of $13.1 billion in fiscal year 2022.

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