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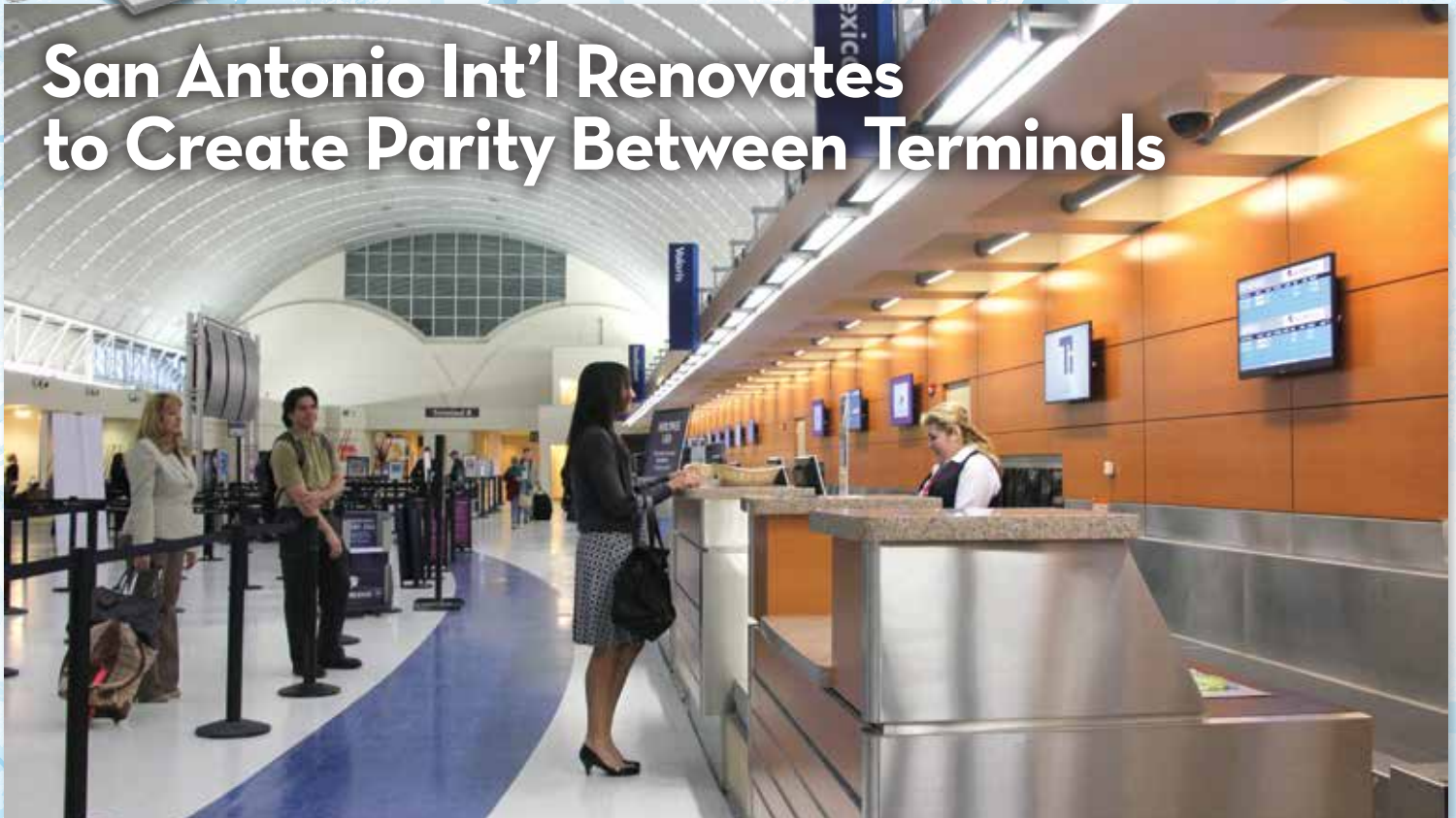


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San Antonio Int'l Renovates to Create Parity Between Terminals



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Don't Listen to Them!

 You've seen them: the 10 Best This and 10 Worst That lists. Magazines seem to be littered with them these days. In our industry, they often originate in consumer travel magazines and have sparse empirical data to back up their sensationalistic headlines.

So why should we listen to them? Well, we shouldn't. Regardless of whether your airport is a "winner" or "loser," these lists have little insight into the true state of your airport. They exist for one simple reason: to make money and create attention for the magazines.

But they do raise a good question: Whom should airports take feedback from about their performance? Believe it or not, the best source is staring you in the mirror every morning. Nobody, and I mean nobody, knows your airport, the industry and your team's capabilities better than you. Trust your instincts. You've honed your craft and know the ins and outs of what works and what doesn't in your particular market.

Don't forget about our airport consultants. They're a ready source of qualified advisors who have staked their livelihood on the experiences they have to offer. The same is true for many of our industry suppliers, whose research and industry knowledge

can prove invaluable. And please don't forget about our trade associations. They champion our industry's viewpoint and interests every day.

There is a better way to tap into your customer base. As you'll see from our social media article on Page 56, airports have a new array of ways to communicate directly with customers. You no longer have to rely on vague information from magazine lists for feedback. Real-time insight gained via social media about specific aspects of your operation can be far more reliable and meaningful.

It's simply good practice to assess a source's credibility before taking its information to heart. So stick to your guns when the next Top 10 Airports list comes out.

Further on the subject of listening to credible sources: I'd like to thank Barry Bateman, who recently retired from his position as director at General Mitchell International, for his work as an editorial advisor to *Airport Improvement*. We appreciate the time and input you provided. Best wishes wherever the runway takes you, Barry! Cheers,

Paul



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San Antonio Int'l Renovates to Achieve Parity Between Terminals

By Robert Nordstrom



factsfigures

Project: Terminal Rehabilitation
Location: San Antonio Int'l Airport
Terminal: A
Cost: \$35.6 million
Funding: General airport revenue bond
Architectural & Design Consultant: RS&H
Prime Designer: Parsons
Associate Architect: Munoz Architects
General Contractor: SpawGlass
HVAC/Plumbing: LC Mosel Co.
Mechanical Engineering: CNG Engineering
Electrical Engineering: TTG Engineers
Electrical & Fire Alarm: Brandt Companies
Fire Sprinklers: Automatic Fire Protection
Flight Information Display System: Infax
Public Address Interface for FIDS: IED
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As San Antonio International Airport (SAT) neared completion of its new Terminal B in 2010, airport and city officials began discussing ways to update the adjacent and aging Terminal A. Results of those talks are becoming apparent, as changes to the 406,000-square-foot facility begin to take shape.

In May, SAT puts the finishing touches on the first phase of \$35.6 million in renovations. The two-phase project is designed to bring the 31-year-old Terminal A up to 2014 standards and ease the visual transition between terminals A and B.



Frank Miller

Having undergone only one minor renovation since it was built, Terminal A was “really showing its age,” reports SAT Aviation Director Frank Miller. The facility’s early ‘80s design — with telltale split-face block walls and dark green terrazzo flooring — became especially evident after Terminal B was connected to Terminal A. “When travelers walked from an open and spacious environment into a dark and not very inviting 1983-vintage building, the contrasts and differences were sharp,” Miller explains.

RS&H Project Manager Pat Hargrove, who led the design and architectural planning

for the renovation, recalls seeing Terminal A highlighted in *Architectural Digest* decades ago. “I thought it was one of the coolest buildings I’d ever seen, with its arched ceiling,” Hargrove relates. “I never dreamed I’d be working on this building 30 years later. But the building (became) tired. The mechanical systems had reached the end of their useful life, and aesthetically it could not match up to the bright, shiny and new Terminal B.”



Pat Hargrove

With fully two-thirds of the airport’s 8 million annual passengers flying into and out of Terminal A, updating its aesthetics and infrastructure became a priority.

Keeping Up With the Joneses

During the design phase of the project, compatibility with Terminal B was the only major restriction airport officials placed on RS&H. Although the “bones of the buildings” are different, designers used many of the same materials to create a more seamless transition between the two terminals.

“While there are slight differences in the way materials were used, the overall feel of the two terminals is similar,” Hargrove explains. “For example, the same terrazzo

New Arconas seating in gatehold areas and updated concessions by HMSHost were just a few of the terminal improvements made recently at San Antonio Int'l.



flooring now flows from one building into the other; and the wall tiles, concourse lighting and ticket counter cabinets are similar.”

To implement the design changes, planners divided the concourse into seven areas and scheduled work in phases. All seven sectors encompassed airline gates, and many included restrooms. Each area was shut down for approximately 10 weeks to complete renovations, and only two gates were taken out of service during each construction phase.

Work crews applied painted drywall and ceramic tile to cover the old split-face concrete masonry unit walls. Electricians installed high-output fluorescent lighting along walls on both sides of the concourse for approximately 1,000 feet, brightening the facility considerably. Old dark green terrazzo flooring was replaced with lighter colored earth tone terrazzo. Holdrooms were updated with new carpeting and gate counters; and old, mismatched seating was replaced with new Arconas units that include power outlets, data connections and cupholders. New electronic flight information display monitors, wayfinding signs and airline logos were also added throughout the terminal.

Restrooms were taken out of commission in pairs and stripped back to the studs to make room for new terrazzo flooring, countertops, mirrors, plumbing, fixtures, toilet partitions and lighting. All 12 of the terminal’s restrooms now comply with code requirements of the Americans with Disabilities Act.

Logistics & Concessions

Neighboring elements, such as gate doors or mechanical infrastructure, significantly constrained restroom renovations. “We were held to the existing perimeters, which we had to make work while bringing the restrooms up to code and not losing any fixtures,” recalls Hargrove. “Our goal was to construct bright and airy rooms using light-colored finishes and durable, maintenance-

friendly materials — porcelain tile for the walls, terrazzo floors, stainless-steel partitions and solid-surface countertops.”

In the central landside area of the terminal, the airport replaced six escalator units and refurbished five elevators. Baggage Claim received new flooring, lighting and wall treatments that mirror Terminal B’s look.

In the ticketing area, crews set new airline counters in place and installed updated electrical and communication infrastructure that allows for future conversion to common-use operations.

“We’re planning for the future,” Miller informs. “We’ve put in place what we need to convert to common-use operations, where we can reassign gates and move airlines around. I’m very pleased that we will have this capability.”

The airport also changed Terminal A’s security checkpoint, where queuing had previously been a problem. “We would have people lined up all the way down and into Terminal B, especially during the early morning push,” Miller recalls.

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SAT management worked with concessions management company HMSHost to move a retail concession previously located next to the checkpoint. The extra space helped eliminate queuing problems and provided room for TSA's Pre✓ program, explains Miller.

Although the Terminal A rehab officially stopped at the lease line of retail and food/beverage tenants, HMSHost brought in several new restaurants to replace older, dated concepts to complement the airport's efforts.

"San Antonio Chef Johnny Hernandez partnered with HMSHost to bring in La Gloria, Fruteria and Mission City," reports Anthony Alessi, vice president of business development for the concessions management company. "In addition, we partnered to bring in La Tapenade Mediterranean Grill as well as the nationally known Steak 'n Shake and Auntie Anne's."

The airport installed glass and stainless-steel portals at store entrances to highlight concessions and create a consistent look for vendors along the concourse.

Behind the Walls

Mechanical and plumbing improvements consumed approximately 25% of project's overall budget. SAT replaced 46 of the terminal's

72 air-handling units and refurbished another 11. Some of the 10- to 30-ton units had to be taken apart and pieced back together to fit into existing spaces. All 72 air-handling units now have digital rather than pneumatic controls, and new sheet metal ductwork was installed in mechanical rooms. For fire prevention, SAT extended a sprinkler system throughout the facility and installed panic hardware in stairwells.

General contractor SpawGlass provided temporary air to airport vendors while the main systems were shut down during renovations. "That was a pretty big challenge," recalls Mike Merritt, the company's project manager. "We brought in generators and outside mobile air conditioning units. We would pipe in temporary ductwork to provide air while the new units were being installed. Then, we would have to break it all down and move on to the next area."



Mike Merritt

Because much of the construction work took place on the airside portion of the terminal, maintaining security was a complex and ongoing issue. During peak periods, approximately 75 day-shift workers and 40 night-shift workers had to undergo background checks and apply for badges to work in secure areas. Crewmembers were also required to carry detailed

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inventory lists of materials they transported within secure areas. If asked, a worker had to confirm possession of everything on his or her list.

"If there was a screwdriver or utility knife missing, TSA could shut us down," emphasizes Merritt. "That utility knife could have been left in a restroom, where a passenger could pick it up (and potentially carry it onto a plane). Fortunately, we had no incidents."

Work areas were enclosed by barricades with double doors, and security personnel guarded the doors. When workers left the barricaded area, guards confirmed that they were not carrying forbidden items out of the work zone. In addition, SAT security personnel conducted mandatory training sessions with all subcontractors working on the project.


SpawGlass held daily meetings with security, subcontractors and airport personnel to keep the project moving and avoid unnecessary disruptions. "There are enough surprises you have to deal with when you crack into a 25-year-old wall without bringing more to the table," comments Hargrove.

Phase 2

Airport and city officials hope to get design work rolling on the next phase of Terminal A renovations by the end of this summer. Construction is slated for 2015.

The second, and final, phase will bring the Customs area on the lower level up to the terminal's new standards with updated flooring, wall treatments and larger restrooms. Lighting on the 35-foot-high barrel ceiling in the ticketing lobby will also be improved.

Curbside, officials intend to upgrade the terminal's split-face block exterior to make it more compatible with the façade of Terminal B next door. Airside, plans are set to add another bridge on the concourse, bringing Terminal A's gate total to 17.

Miller reports that feedback about the renovations has been very positive. "Travelers are very pleased with the look of the building," he says. "And the airlines say it has made their operations better. It's been a very positive response all around." 



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Catering to Small Visitors Can Yield Large Returns

By Jennifer Bradley



factsfigures

Project: Children's Play Areas

Sample Airports: Los Angeles Int'l; General Mitchell Int'l (Milwaukee); Portland (OR) Int'l

Cost: Varies with size, materials & design

Funding: Some airports self-fund while others secure corporate or local sponsors

Key Benefits: Improved customer relations; potential to increase sales at nearby concessions

Key Considerations: Safety; hygiene/maintenance

With no direct revenue streaming from children's play areas, some airports underestimate their importance. Factor in customer service appeal and secondary revenue opportunities from calculated placement, however, and the potential value of a well-executed romping ground grows significantly.

Consider this: A family's average dwell time in an airport play area ranges from 45 to 90 minutes. That's a lot of time to capture concessions sales and build customer loyalty. Creating and maintaining a family-friendly play area can go a long way toward turning traveling families into happy, repeat customers.



Annie Linstrom

Annie Linstrom, public information officer at the Port of Portland, takes a personal bent on the topic. "If my child is not happy, I'm not going to be happy," Linstrom reflects. "I think we all feel empathetic if there is a young child on a flight getting antsy." Play areas, she reasons, can improve travelers' airport experience and provide a way for children to burn off energy before a long flight.

Jeff Williamson, a business development associate for airports at PLAYTIME, considers the addition of a play area at Seattle-Tacoma International Airport in 2005 an "ah-ha moment" for executives throughout the airport industry.

"They saw the impact it can have on their advertising space, but most importantly, realized they need to become more family friendly," Williamson explains. "This amenity creates an overall great customer experience for people flying in and out of an airport."

Jeff Evans, director of business development at PLAYTIME, reflects on how airport play places have evolved as the industry has become more competitive. "Throwing a couple game panels on the wall and calling it a play area just isn't working anymore," notes Evans.

Location, Location, Location

One of the biggest challenges airports face is carving out space for a children's play area. Revenue-producing concessions, kiosks and grown-up amenities such as business centers are all tough competitors for valuable airport real estate.

General Mitchell International Airport (MKE) in Milwaukee has three play areas. Each was recently updated with new play equipment and carpeting, reports Harold Mester, the airport's public relations manager. The play area in Concourse D includes a nearby family restroom decorated with a children's theme. "It makes sense to have the family restroom right there, rather than requiring a walk down the concourse," says Mester.

Portland International Airport (PDX) also has three play areas — two post-security and one located before TSA checkpoints. "First and foremost, it is imperative to define a footprint and identify the space you'll have to work with," advises Kendall Austin, Airport Terminal Operations manager at PDX. Austin also recommends researching all types of indoor play structures and conducting local site visits to places such as malls.



Kendall Austin

The pre-security play area at PDX includes slides, activity sets and Lego tables. Evans says that the popular features are smart investments for airports, because they encourage visitors to stay, eat and wait for Mom or Dad, Grandma or Grandpa, to arrive.

During business hours, PDX's pre-security conference center provides a private nursing area for mothers, with electrical outlets for pumps.

Los Angeles International Airport (LAX) had no play areas until last December, when "LAX Beach" debuted in the new Tom Bradley International Terminal, a few months after the terminal itself opened. Westfield Group, the terminal's concession developer and manager, assisted PLAYTIME and LAX in designing and installing the 971-square-foot beach-themed area for \$350,000.

Planners strategically located the new play space near restrooms and the terminal's dining terrace. "Location is very important," says Eileen Hanson, Westfield's marketing vice president. "It's very convenient for families to be able to get their food and enjoy it without having to relocate their entire family."

Evans agrees: "The location ties into the retail space and how can we encourage families to spend more money. If the kids are in a happy mood, it allows the parents to spend and enjoy that experience a little more."

Themed Fun

Hanson says the beach theme — complete with surfboards for kids to stand and play on, lifesaver rings and a lifeguard shack — is her favorite part of the LAX's new play place. "It was a way to incorporate the outdoors and the California lifestyle into the terminal," she says.



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General Mitchell Int'l is one of many airports with aviation-themed play areas.



Technology also adds to the area's appeal. An interactive light table in the shape of a surfboard and light bubbles on the lower walls for toddlers really captivate children's attention, Hanson notes.

Aviation is a common theme for other airport play areas, as children seem to love playing on toy airplanes while watching real ones out the window. MKE special ordered aviation-themed carpet for its recently renovated play areas. The 2-inch foam padding, which is higher than the hallway carpet, adds logistic challenges for maintenance crews, but is appreciated by parents. The cushion it provides young children, who slip and fall easily or just need a soft place to sit and regroup before boarding, adds notable comfort.

"The carpet is remarkable," Mester remarks. "It really transforms the play areas and makes them a lot more attractive to children."

PDX's Concourse C play area also features an airplane-themed area for toddler passengers. A flatscreen plays Nick Jr. TV, and the area includes large chairs and tables to welcome families. It's located directly below skylights in the concourse and is very colorful and bright, says Austin. Parents can plug in and finalize work, older siblings can surf or play games on their tablets and toddlers can climb and enjoy more physical play.

At Cincinnati/Northern Kentucky International Airport (CVG), CTM Group helped develop a play area that boasts an interactive floor with MotionAware technology. The floor "comes to life" and reacts when motion is detected, allowing children to activate animations, trigger sounds, play games and use applications. It is a key part of CVG's new "Funway Runway" in Concourse B, and also features the "iReality" ride, which uses four-way motion and hand mapping to entertain children. A 55-inch flatscreen projects the fun as it unfolds.

Play With a Purpose

When Mester assesses the value of MKE's play areas, he emphasizes how happy they make some customers. "It's something we are able to offer that reduces stress when traveling with children," he explains. The junior-set amenities are particularly important as the airport continues to attract more passengers from the Chicago area, he adds: "They choose this

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Fun as they are, children's play areas also often involve Band-Aids and bacteria. That's simply the nature of small children.

Eileen Hanson, vice president of marketing for the Westfield Group, says that Los Angeles International Airport (LAX) was very selective about the materials it used at LAX Beach, the new children's area it opened late last year. The airport wanted an authentic beach feel with a variety of textures for small children to explore, but the area also had to be extremely durable and cleanable, Hanson explains. Some materials were made especially for the installation, including Chilwich and Concertex upholstery fabrics, InteriorArts laminates, Avonite solid surfaces, and hand-painted safety foam sculptures.

At Mitchell International Airport (MKE), designers chose low-pile carpeting for easy vacuuming by the maintenance department. In addition, its large toys from PLAYTIME are anti-bacterial, wipe down easily each day and

are designed to reduce tripping hazards for toddlers, notes MKE Marketing and Public Relations Manager Harold Mester.

Jeff Evans, director of business development at PLAYTIME, says that a daily cleaning is sufficient to keep germs under control, since its toys are made from antibacterial materials. Some airports also place hand sanitizer units near the area. Portland International Airport makes such units available throughout the terminal year-round to keep germs under control and little ones protected.

Play area elements are also designed to reduce the likelihood of injuries and certified to specific safety standards. Even with accidents and liability as ever-looming issues, Evans makes a strong case for dedicated play spaces: "What you're really doing is taking all those kids away from escalators, stairs and other things they would turn into play areas, and which aren't inherently safe."

airport because they want a streamlined, efficient, relaxed process."

But leveraging play as a marketing tool comes at a price. While MKE and LAX footed the bills for their play areas, other airports secure sponsors to cover or defray the costs. At PDX, concessionaires in Concourse C provided funding for the Koala Kids activity set in their area, and the airport paid for the pre-security play space.

Aquafina is the named sponsor at three of the five play areas inside Dallas-Fort Worth International. And the Nevada Mining Association donated \$56,000 to fund the playsite that opened last spring at Reno-Tahoe International.

"Sponsorship has been a big aspect in play areas because brands do want to be family-friendly.

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Westfield sees the matter in decidedly experiential terms. “As travelers start to expect more from their experiences, it isn’t just about

going through the airport on their way to a journey,” says Hanson. “The airport experience is as important as the flight and final destination.”

PDX’s Linstrom agrees, noting that ticket price is no longer the only factor travelers consider when selecting an airport. “There’s more possibility for families to travel now, and even go on their first vacation with a two- or three-year-old child,” she says. “What better time to help accommodate their needs as a family? As an airport, we have the ability to provide that space and environment, and improve their overall experience.” ✈️

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Project: Replacement Runway

Location: Port Columbus (OH) Int'l Airport

Owner: Columbus Regional Airport Authority

Runway: 10R-28L

Commissioned: August 2013

Cost: \$135 million (including \$2 million for airfield lighting)

Total Runways: 2

Daily Scheduled Air Carrier Departures: Almost 150

Program Highlights: First U.S. airport to use LED high-intensity runway edge lights; largest capital project in airport history; first new hot mix asphalt runway at a medium/large hub in more than a decade

Sustainability Highlights: South airfield LEDs will consume 60% less power; 720 tons of steel scrap & 3,700 tons of concrete recycled during site demolition

Airfield Project Design Lead: CH2M HILL

Obstruction & Airspace Studies: Woolpert

Construction Managers: Parsons Brinckerhoff (New Runway & Taxiway); CH2M HILL (Conversion of Old Runway to a Taxiway)

Runway & Taxiway Pavement Structure Design: Roy D. McQueen & Associates

Earthwork/Utility & Runway Conversion Prime Contractor: George Igel Co.

Storm Water Detention Basin Design: Gresham, Smith and Partners

Paving/Electrical/NAVAID Prime Contractor: Shelly & Sands

Electrical Contractor for Airfield Electrical Systems & NAVAS: Jess Howard Electric Co.

Demolition: S. G. Loewendick & Sons

LED High-Intensity Edge Lighting: ADB Airfield Solutions

Thermoplastic Markings: Ennis-Flint

Pavement Markings Installation: PK Pavement

Weather Systems: Vaisala

Security Systems: Bosch

Solar Obstruction Lighting: ADB

Obstruction Lighting & Security System Installation: Jess Howard Electric

Accolades: Quality Asphalt Paving Award from Flexible Pavements of Ohio; Nat'l Asphalt Paving Assoc. Award; 2013 Excellence in Engineering Award from the American Council of Engineering Companies of Ohio; pilot/airline video named a best practice by FAA Airport Construction Advisory Council; best paper award from Aviation Committee of the Illuminating Engineering Society of N. America



Port Columbus Int'l Ups Airfield Sustainability

By Rebecca Kanable



If airfields were buildings, there's little doubt that the new replacement runway at Port Columbus International Airport (CMH) would be a shoo-in for Leadership in Energy & Environmental Design (LEED) certification from the U.S. Green Building Council.

Runway 10R-28L at the medium-sized Ohio hub is the first runway in the United States to have high-intensity light emitting diode (LED) runway edge lights — a change that's expected to help reduce power consumption by 60%. The runway itself is paved with hot mix asphalt, and a perpetual design approach was used to improve resistance to rutting and fatigue and therefore reduce the extent of surface rehabilitation needed in the future. CMH is reportedly the first medium-sized commercial hub in recent history to implement this design for hot mix asphalt that is expected to last 50 or more years.

The new 10,113-foot-long, 150-foot-wide runway that was commissioned last August cost \$135 million and is the largest capital improvement campaign in the airport's 85 years. With the new runway in operation and most of the other work complete, the project is currently almost 20% under budget, reports Tim Mentel, project manager at the Columbus Regional Airport Authority. Officials expect the entire project to be completed this fall, when the old runway is converted into a parallel taxiway.

The project addresses future land and air space needs by moving CMH's southern runway 702 feet farther south. The new increased distance between the south and north runways will allow for simultaneous takeoffs and landings in the future. The larger envelope of land to the west of the existing terminal provides



Tim Mentel



room for development — specifically, for a replacement terminal. Portions of the original runway were built in 1929.

The FAA financed nearly 63% of the runway project costs; the airport authority covered the remaining expenses using passenger facility charges.

A “triple bottom line” — one that considers social and environmental factors as well as economic factors — guided the entire airfield initiative. The principle was central for CH2M HILL, the project’s lead design firm; Parsons Brinckerhoff, construction manager for the new runway and taxiway; pavement designer Roy D. McQueen & Associates; and other key participants.

“CH2M HILL partnered with the authority from day one to set sustainability goals for this key development program,” says Project Manager William Peduzzi, P.E., vice president of CH2M HILL. “A triple bottom-line approach was considered for each program element — from minimizing printing of plans and reports through post-commissioning operational and maintenance requirements.”

The new runway’s edge lighting falls squarely under the environmental category of the triple bottom line. The airport authority jumped at the chance to install LED high-intensity runway edge lights shortly after the FAA approved them last spring — even though the LEDs did not qualify for Airport Improvement Program (AIP) funding and runway construction was already nearly complete at the time.

Construction Waste Management

With sustainability as a primary project goal, recycling occurred whenever possible during site demolition, earthwork preparation and construction, Mentel relates.

About 185,000 cubic yards of pavement from the old runway, parking lots and ramps was broken up and used as fill or crushed aggregate for the new construction.

For More Details

Members that led the design and pavement structure teams for the reconstruction/relocation of Runway 10R-28L at Port Columbus International Airport are scheduled to present a paper about the project at the American Society of Civil Engineers’ second Transportation and Development Institute Congress Conference in June. The presentation will focus on three primary elements of sustainability during the \$135 million project: construction waste management, perpetual pavement design and energy-efficient edge lighting.

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Installing LED runway edge lights is expected to help reduce airfield power consumption by 60%.

Incorporating the recycled materials into the base layers of the new runway and cement stabilizing the subgrade really saved cost on the project, Mentel notes. The year earthwork began (2011) was the wettest year in Columbus history; by reusing the old asphalt, “we were able to keep the project on schedule, because we didn’t have to go back and dry the earth,” he explains.

Reinforcing steel and concrete from several structures demolished on the 96-acre project site were also recycled. “We took down several Cold War and even

WWII era buildings,” Mentel recalls.

In total, approximately 720 tons of steel scrap and 3,700 tons of concrete were recycled during site demolition.

Site preparation also included more than 400,000 cubic yards of earthwork. CH2M HILL designed the project to minimize the need to remove materials and haul them away via city streets. By raising the proposed runway grade, the design team balanced the earthwork and avoided unnecessary disturbance of a previous Air Force site plant that generated and stored hazardous materials.

In addition, the airport authority combined the construction of a storm water basin with the runway construction to optimize both projects. Constructing the Turkey Run Storm Water Management Basin required significant excavation on the 23-acre storm basin site, while the 10,113-foot runway complex required fill embankment. The design incorporated excess materials from the basin into the runway complex embankment, and construction was coordinated to allow direct placement of the materials. By combining projects, CMH eliminated the double handling of the materials — a strategy that saved costs, construction time and associated vehicle emissions.

“We were very pleased with the results,” Mentel reflects. “It allowed us to maximize the reuse of our resources while mitigating potential risk of the former plant site by filling over the existing ground.”

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Perpetual Pavement

Sustainability was also a guiding goal during the pavement design, relates Chris Decker, project manager with Roy D. McQueen & Associates.

The main reason designers took a “perpetual pavement” approach and specified high-quality materials within the pavement layers was to provide full frost protection for the runway’s pavement structure. The strategy is also expected to reduce the overall rehabilitation work needed for its surface layers — thus reducing material use, energy consumption, work vehicle emissions, etc.

Decker estimates that the runway’s surface might need to be replaced in 17 years or so, but the entire structure should not need to be reconstructed.

If all goes well, a full-depth asphalt replacement should not be needed for the expected design life, adds Mentel. He does, however, expect to replace the top 3 or 4 inches of surface material, as it takes the brunt of weather and traffic wear.

Decker, in turn, stresses the importance of quality construction: “You can design items that can last; but at the end of the day, they ultimately have to be constructed that way. Each layer inside the pavement is important for longevity and sustainability.”

For that reason, Roy D. McQueen & Associates provided workshops about the different pavement layers and processes before the contractor started working on them.

“Anytime you’re looking at variable soil types across a grade and you’re trying to build a uniform system and provide pavement longevity and durability, consistency is key,” Decker explains. “With hundreds of acres and hundreds of thousands of tons of materials, making sure those materials are consistent and uniformly placed across the site – that’s a huge obstacle to overcome.”

Obstruction and airspace planning were also noteworthy aspects of the preliminary design phase. Woolpert used a combination of high-tech surveying and mapping tools and proprietary remote sensing capabilities to identify obstructions such as trees, vertical lighting and buildings before developing construction plans for the relocated runway. After construction began, the firm conducted a second aeronautical survey, so flight plans and approach procedures could be developed.



Chris Decker

Designing Sustainability

David Gotschall, senior project manager with the Columbus Regional Airport Authority, links cost-effective operations with sustainable design.

Having already had positive experiences with LED technology for taxiway edge lights, the authority ran additional cost-benefit analyses and determined that LEDs should replace incandescent bulbs wherever possible. When the current runway project is finished this fall, the entire south side of CMH will be outfitted with LED lights.



David Gotschall



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Port Columbus Int'l was the first U.S. airport to install elevated LED runway edge lights.

While CMH's runway LEDs initially cost more than incandescent bulbs, the LED fixtures don't use as much electricity. The airport is already seeing a 35% to 45% savings on a year-to-year basis, and the savings should increase over time, because the new LED lights will last longer and therefore require less maintenance over time, Mentel explains.

The true expense of changing airfield lights extends beyond the costs of replacement lamps and maintenance staff salaries; it also includes the cost of maintenance vehicles burning diesel

fuel and creating emissions, notes Bill Weigel, regional sales manager for ADB Airfield Solutions.

Weigel explains that there are two systems for runway edge lights: medium-intensity systems for smaller, general aviation airports and high-intensity systems L-862E(L) for commercial service airports, like CMH.



Bill Weigel

LED lights themselves, of course, are not new. Airports have used them to light taxiway edges, runway centerlines and touchdown zones for years. The FAA, however, didn't approve LED use in high-intensity runway edge lights at Part 139 airports until last spring. And they currently are currently not eligible for AIP funding.

One of the primary issues regarding funding involves enhanced flight vision and night vision imagery systems. LED light fixtures do not typically emit an infrared component, and some freight carriers have installed enhanced vision systems to view infrared using the approach and runway edge lighting, Weigel explains. Research is currently being conducted on potential ramifications. (For more information, reference the March 2013 update from the FAA Office of Airport Safety and Standards at www.aci-na.org.)

While the issue is still pending, Weigel has no doubt that LEDs will become increasingly common in runway light fixtures, just as they have in the consumer market. Driving innovation into the marketplace requires organizations like the Columbus Regional Airport Authority that are willing to pay a higher initial cost to push leading-edge technologies forward, he adds.

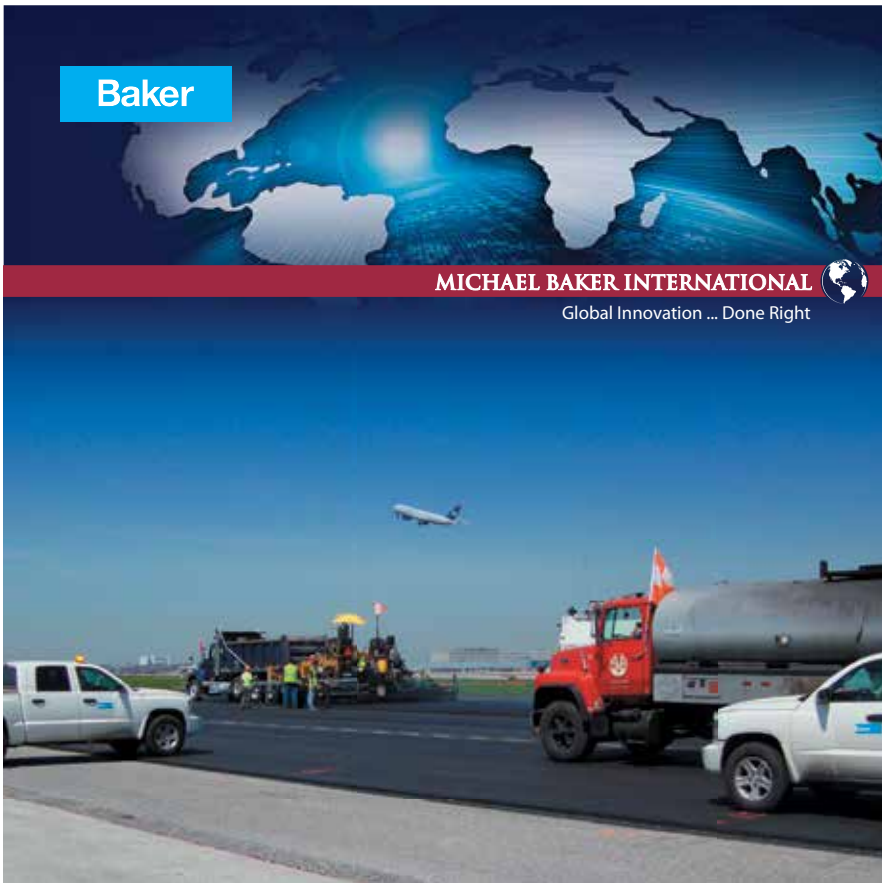
Installing the LED fixtures also was a bit challenging, because the required constant current regulators (their power sources) had to fit into an existing airfield lighting vault, notes Jeff May, CH2M HILL electrical engineer. "Space within the lighting vault needed to be conserved to make room for the new constant current regulator installations," May explains. "Also, the existing constant current regulators not affected by the Runway 10R-28L construction had to remain in service. This was critical to the operation of the airfield."



Jeff May

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Challenges aside, the benefits of CMH's new lighting fixtures are measurable. According to Weigel, LEDs have reduced the runway edge fixture load from about 175 VA (volt-amps) to about 40 VA. The threshold lights, which delineate the runway end, went from 220 VA to 40 VA, he notes. The lower energy consumption translates into a cost savings of \$0.116 per kilowatt-hour, adds Mentel.

In addition to providing LED runway edge lights for the new runway, ADB provided LED runway centerline, touchdown zone and guard lights. In addition, the company supplied LED taxiway edge and centerline lights as well as guidance and distance remaining signs.

Beyond the energy savings and reduction in maintenance costs, the enhanced visibility of LEDs also provides an important safety benefit, Weigel notes. "They're a much clearer, perceived brighter light source," he elaborates. "With LEDs, there's no color shift. Incandescent lamps at lower intensities have a substantial color shift, which makes them look more orange or amber than white. When that occurs, runway lights can be confused with taxiway centerline exit lights."

ADB installed LED test beds at the Ohio airport to see how the new lights would look in various conditions, including snow. Because LEDs emit less heat than incandescent bulbs, the new fixtures at CMH won't melt snow as easily. In order to realize the full energy savings, the airport authority opted to not install heating devices with the project, Weigel reports.

The Social Bottom Line

With people as a critical element of the airport authority's triple bottom line, safety has been emphasized throughout the project. Before workers enter the jobsite, everyone (close to 900 workers so far) must attend a video training session created by the airport with the help of Parsons Brinckerhoff. After workers complete the training, they receive sticker for their hard hat to identify compliance and a personal commitment to safety.

"The safety record of the program was outstanding," reports Arnold Rosenberg, senior vice president and national director of Aviation Program and Construction Management Services for Parsons Brinckerhoff.



Arnold Rosenberg

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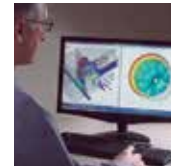
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"We took our zero-harm approach seriously," he continues, noting that the policy refers to people on the jobsite *and* the environment.

With the new runway being built so close to the existing runway, the biggest challenge was keeping airplanes off the new runway until it was open, recalls Gotschall. The airport and CH2M HILL worked closely with the airlines, airline pilots association and FAA to develop construction phasing that mitigated the risk of aircraft mistakenly landing on the new runway before it was ready.

Once stone was put in place for the new runway, crews placed lighted Xs (runway closure devices) at each approach end. When the pavement was installed, fabric Xs were applied on the pavement surface every 1,500 feet and two additional lighted Xs were placed midfield.

As part of the sustainable design philosophy, CH2M HILL modified the lighted Xs to run off the electric grid instead of a diesel generator, which is the usual industry practice. Over the course of the project, standard lighted Xs would have burned 25,000 gallons of diesel fuel.

To reinforce that the original runway was still open, its runway lights were kept on 24/7. Parsons Brinckerhoff also created a video simulation to educate pilots about what they would see

when making approaches at dusk and dawn. The simulation was presented to the FAA, given to airlines for pilot training and shared on YouTube. Subsequently, it was named a best practice by the FAA Airport Construction Advisory Council.

"The overall effort on everybody's part to assure that the program was constructed safely was excellent, especially considering the size of the project itself," Gotschall reflects. "We were working in an area about 20,000 feet long east to west and probably at least 1,500 feet north to south. With that size of envelope, there's just a lot going on. Keeping aircraft safe was paramount."

The efforts paid off, he adds: "We had no incidents of aircraft landing on the runway before it was open or taxiing into something they shouldn't have."

CMH's runway replacement/relocation project is scheduled to conclude this fall, after the former south runway is converted into a taxiway. Once that is complete, focus will shift to rehabilitating the airport's north runway — a project already under design by CH2M HILL. Many of the same sustainable concepts developed for the south runway will be applied to the next runway project. "It's just the continuation of the philosophy and innovation we have adopted for airfield development in Columbus," notes Mentel.

Since 2011, almost \$700 million in airport improvements have been completed at CMH. 

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Miami Int'l Strives to Turn Cabbies into Ambassadors

By Nicole Nelson



factsfigures

Project: Cab Standards Program

Location: Miami Int'l Airport

New Requirements: Vehicles must be no more than 6 years old (8 for wheelchair-accessible units); drivers must follow dress code, open doors for passengers & load/unload luggage; cabs must include equipment to pay tolls electronically, process credit card payments & facilitate dispatching with GPS

Name of Initiative: Ambassador Cabs Program

Ordinance Control: Miami-Dade Board of County Commissioners

Primary Compliance Deadline: Jan. 29, 2015

GPS Equipment Deadline: Jan. 29, 2016

Other Details: Program also covers cabs serving Port-Miami; upgrades to airport infrastructure will allow for future interoperability between the 2 currently separate systems

Infrastructure Upgrade Partners: TransCore; GateKeeper Systems

Cost of Upgrades: \$1.6 million



When Emilio T. González, Ph.D., assumed duties as director of the Miami-Dade Aviation Department last spring, he was greeted with an inordinate amount of complaints about ground transportation at Miami International Airport (MIA).



Emilio T. González

“I was getting a lot of hate mail on our cab issue,” González specifies. “I realized that it is a very important issue for an airport to provide quality ground transportation — especially in a community like ours, which depends so much on visitors, business travelers and conventions.”

The newly appointed chief of the largest U.S. gateway for Latin America and the Caribbean was also struck with another key realization: “Travelers don’t see airports in parts. To them, it is very transparent. If there is a cab problem, it is the airport’s fault. If there is an Immigration problem, it is the airport’s fault. If there is a baggage problem, it is the airport’s fault.”

González promptly put his extensive policy experience to work by going straight to the top — Miami-Dade County Mayor Carlos Gimenez — for help fixing MIA’s landside

transportation issues. Prior to assuming the top operational post at one of the busiest international airports in the world (passengers and freight), González spent most of his career in foreign affairs and international security policy issues, including director-level positions at the U.S. Citizenship and Immigration Services and National Security Council.

Together, González and Mayor Gimenez jointly developed a program that establishes standards for both the cabs and drivers that serve Miami’s main international airport and seaport. The strategy, now known as the Ambassador Cabs Program, was adopted by the Miami-Dade Board of County Commissioners with near-unanimous support early this year.

Back to Basics

“The key is that there will be a consistency in the standards,” González explains. “When somebody gets in a cab, they will know what to expect.”

Under the new program, most vehicles servicing the airport must be no older than six years old; wheelchair-accessible vehicles can be up to eight years old. In addition, Ambassador Cab drivers must meet dress code

standards, open doors for passengers and load/unload their luggage.

“The things that you would normally think are basics in a cab industry are not here,” González relates. “It was a wonderful case of doing what is obvious anywhere else.”

Neither González nor Gimenez mince words about the pressing need for improvements to MIA’s cab service. In a press release issued earlier this year, Mayor Gimenez referred to the mandated changes as “common-sense reform” and González called the new standards a “long-overdue leap into the 21st century for our local taxicab industry.”

Cabs operating at MIA and PortMiami have until January 29, 2015, — one year since the ordinance was enacted — to comply with new vehicle and driver requirements.

González has high expectations for the new program: “It’s a big win for the millions of visitors who spend time and money in our community each year, as well as for the many residents who regularly travel through our global gateway.”

Technological Boost

In addition to “the basics,” the new program also mandates requisite technology. By July 29 this year, cabs must include SunPass transponders for electronic toll collection. And by late next January, they must have credit card processing equipment, digital security camera systems and lights that indicate when the cab is available. The cab companies were given two full years to install systems that use global positioning technology to facilitate dispatching.

In late March, the aviation department had not yet issued new RFPs as a result of the Ambassador Cab program. If the department decides to change to a closed system for vehicle access and management on the airport, new contracts may be required, explains González. Currently, though, new technology requirements for the vehicles will be negotiated between the cab owners and their chosen providers.

Meanwhile, MIA and its strategic partners are preparing to launch

technology infrastructure updates to the airport’s existing system in May. A multi-phase, \$1.6 million contract has TransCore deploying commercial vehicle management software from GateKeeper Systems for use with existing equipment. Next, the team plans to replace reader equipment.

“Miami has an older commercial vehicle management system that has been around for a long time, and the infrastructure needed to be upgraded,” explains Forrest Swensen, director of Airport Systems and Services for TransCore. “We are upgrading the infrastructure that was over 15 years old; so when the system is completed, we will be able to read all of the older transponders they have at the airport and all the newer, faster SunPass transponders.”



Forrest Swensen

Future Links?

GateKeeper Systems President Lynn Richardson describes the additional technology requirements for cabs as a “work-in-progress” that has generated more discussions than decisions so far. That said, he’s also confident that his company’s software will produce similar results at the airport that it has produced at PortMiami for the last four years.

“From a software standpoint, it’s identically the same system; and the seaport has identical objectives of trying to manage the flow of commercial vehicles in and out,” he comments. Commercial vehicles such as limousines, taxis, shuttles and charter buses will all be tagged and registered in both systems, he adds.

Currently, the airport and seaport use the same tags and software but operate their respective systems separately, Richardson explains. MIA’s new infrastructure will allow the vehicle management systems at MIA and PortMiami to be linked.



Lynn Richardson

“We installed (the systems) with the idea that there would be some future interoperability between the two, because they share so many ground transportation providers,” Swensen explains. Well over 75% of cruise passengers who depart from PortMiami arrive via MIA, he notes.

Although the airport has not yet formalized the final details, it is exploring the functionality of the dispatch module and software as a whole to figure out how to execute day-to-day operations, Richardson adds.

With the main compliance deadline in late January 2015, González expects to begin seeing newer, more modern vehicles replace old, outdated cabs at the beginning of this summer. To further incentivize change, the airport is offering front-of-the-line queuing privileges to newer model and alternative fuel vehicles.

“Taxicabs provide a critical first impression,” says González. “If we want to be considered a world-class community, we need to offer world-class customer service all the way from touchdown to takeoff.”

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High-Tech Strategies for Lease Management

By Mike Schwanz



factsfigures

Project: Lease Management

Location: Santa Maria (CA) Public Airport

Annual Operations: 45,450

Lease Volume: 280

Full-time Employees: 12

Location: Truckee Tahoe (CA) Airport

Annual Operations: 26,500

Lease Volume: 250

Full-Time Employees: 19

Location: Charles M. Schulz-Sonoma County (CA) Airport

Annual Operations: 80,000

Lease Volume: 390

Full-Time Employees: 13

Software Product: ProLMS

Vendor: ProDIGIQ

Key Benefits: Streamlines process for recordkeeping about airport tenants; improves access to financial data for staff & board members; helps track tenant & airport hangar improvements



Managing airport leases inherently requires a lot of recordkeeping. Even for a basic T-hangar, airports must document specific dimensions, features and improvements. Necessary tenant information includes the type of plane, amount of rent, payment dates and current proof-of-insurance. Multiply all that by 200 or 300 hangars, and the task becomes daunting for smaller airports with limited staff and budgets.

Factor in other categories of leases, such as restaurants, parking, car rental and storage facilities — each with their own specific recordkeeping requirements — and the time required further multiplies.

Early this year, Charles M. Schulz-Sonoma County Airport (STS) began using cloud-based software — ProLMS from ProDIGIQ — to ease its recordkeeping burdens. With nearly 400 tenants to track, lease management had become an increasing challenge for the California wine country airport.

“When I started in 2002, we used spreadsheets and paper files,” recalls Airport Manager Jon Stout. “(Then) we started with a software program called Property Boss. It was OK for hangars themselves, but not for fuel flow, landing fees, percentage rents and other categories.” When the airport expanded some of its leases over time, charging different rents



Jon Stout

for different buildings, the process eventually started to fail.

Providing timely information to Sonoma County’s budget analyst and auditor had also become problematic. “When they asked for information, we had to go back to our files to get it,” Stout recalls. “This often took a day or two, and was very time-consuming. That is when we started to look at other solutions.”

Stout and his staff talked to several vendors, but none offered the services they needed. And using software from other county departments didn’t work, either. “Sonoma County has a marina at the tip of San Francisco Bay; they lease (space) like we do, for things like boat slips, stores and restaurants. But it just did not translate to our situation,” Stout explains.

One problem was keeping track of who owned each aircraft. “There might be one person who signed the lease, but he had four partners. Getting all the information together took a lot of time,” he elaborates.

Most of STS’ leases (about 300) are for private hangars, but Alaska Airlines also flies Bombardier Q400s into the airport from several West Coast cities. Besides renting hangars, the airport maintains leases for a restaurant, car rental, parking, air ambulance service and tenants of an on-site industrial park. In addition, it collects income from special events such as movie shoots, and police departments rent some of its old taxiways for driver training.

Sonoma County Airport recently streamlined its lease management processes by subscribing to a cloud-based software service.

After four months operating with the new software, Stout is happy how the new system handles the airport's various leases. "We know already that this program saves staff resources and improves communication between us and the county budget officials," he reports. "And the people on our staff who use it every day say it has made their jobs easier."

Having comprehensive document storage was a major selling point, he notes. Auditors can now open up any file using the system's read-only feature.

Convincing the county's Purchasing Department to buy the program was a bit challenging, Stout acknowledges. Because there are no similar software services in the industry, the purchase didn't follow the county's usual competitive bid process. "They were uneasy about that, but we convinced them to give us the green light," Stout relates.

The airport started migrating its lease data last September, and went completely online in January 2014. "The engineers at ProDIGIQ took our old Excel spreadsheets and imported much of the data to the new program," Stout reports. "T-hangar rentals were easy, but some of the other businesses were more difficult to move over. We did the rest of the inputting ourselves."

The inputting process itself proved beneficial. "It showed the airport staff that we were missing a lot of data that was paper-based, such as insurance and aircraft registration," he relates. This realization, in turn, prompted tweaks to the airport's new program to prevent future documentation lapses.

Stout also had ProDIGIQ add a graphic map interface that uses an overview photo of the airport. "Now, airport staff or someone from the auditor's office can click on the image of a hangar and get information on its dimensions and price," he explains.

The company added a similar feature for main terminal leases such as car rental companies, vending machines, kiosks, restaurants and stores. "We now have a drop-down menu, so when one of our staff members or an authorized county auditor wants information on a specific tenant, they can simply click on the graphic of the category and get the information," says Stout.

The customized features of the STS system illustrate ProDIGIQ's product and service strategies. "Our goal is to offer all-inclusive solutions based on what each client wants," explains Arpit Malaviya, the company's vice president of business development. "The fact that ProLMS adapts to each airport's unique business processes, rather than the airport adapting to the system, has led to this product's fast growth in the industry. We also work very hard to provide excellent customer service."



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Using ProLMS from ProDIGIQ makes it easier for Santa Maria Public Airport to provide financial information to its board members.

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Switching Systems

Further down the coast, Santa Maria Public Airport (SMX) has been using ProLMS to manage its diverse assortment of tenants for almost two years. The small, Santa Barbara-area facility monitors about 280 leases. That requires detailed recordkeeping for 175 general aviation hangars, 25 commercial aviation leases, 20 storage facilities, eight airlines (including cargo companies such as FedEx), five agricultural leases (predominantly strawberry growers), four rental car companies, business park tenants and other miscellaneous categories.



Christopher **Hastert**

Before migrating to ProDIGIQ's cloud-based system, SMX personnel used Microsoft Access to track leases and backed up the electronic files with paper copies, says General Manager Chris Hastert. "The problem we had with Access is that it was hard to change things," Hastert explains.

"We have only 12 full-time employees, including maintenance workers. We had only one person skilled in Access; so if that person was out, we could not check on a lease."

The airport also found that mistakes were sometimes irreversible under its previous system. This prompted the frustrating need to restore the database from a previous backup and reenter information that was added after the backup.

Staff also found it difficult to find specific financial information for SMX's five-member elected board. Answering a question from board members sometimes took several days. "This really became an issue for us, and that is why we started to shop around for some new software," Hastert recalls.

Over several meetings with Malaviya from ProDIGIQ, Hastert described the specific capabilities his airport needed. "For example, I told him I wanted to have e-mail reminders when leases were due to expire, and they were able to implement that into the program," he notes.

After ProDIGIQ installed the system at the airport, an SMX employee entered lease data from printouts of the old Access files. With details for nearly 300 leases to enter, the process took two to three weeks. "Fortunately, she was very detail-oriented; and I oversaw what she did," Hastert says.

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With the system up and running, he appreciates that anyone on staff can use ProLMS and board members can access, but not change, lease files.

Hastert has also found that the airport's customized software:

- makes it easy to reach tenants quickly — to report storm damage to hangars, for instance
- provides a quick look at airline data with details about passenger counts and flight volume
- helps verify that tenant and airport improvements are made on schedule
- facilitates payment and reimbursements for farm tenants' water bills

Paper vs. Program

Truckee Tahoe Airport (TRK), a central California facility that handles about 26,500 operations per year, derives most of its operating income from 230 rental hangars. It's consequently crucial for Jane Dykstra, the airport's director of finance and administration, to access information about leases.



Jane Dykstra

With just 19 full-time staffers, keeping up with the recordkeeping necessary for each tenant had become a real challenge. "There just seemed to always be some piece of information missing in each file, such as the dimensions of each hangar, maintenance records, the tenant's deposit or insurance information," Dykstra recalls.

A three-month trial of ProDIGIQ's cloud service turned into a six-month demo and eventually a software purchase and three-year service subscription (long enough to earn the airport a discount). Most of the airport's training was performed virtually, notes Dykstra. "They were very good at addressing our questions," she adds.

After using the system for about six months, Dykstra was confident it had made the airport more efficient in many ways. "It is much easier for us to track tenants in each hangar," she explains. "ProLMS allows us to input the N number for each plane, the type of aircraft, certification of insurance and proof that the owner did an annual safety inspection."

Additionally, the program records key data for each hangar, including its overall dimensions, door width, floor type (asphalt or concrete) and height. It also notes which way each hangar's

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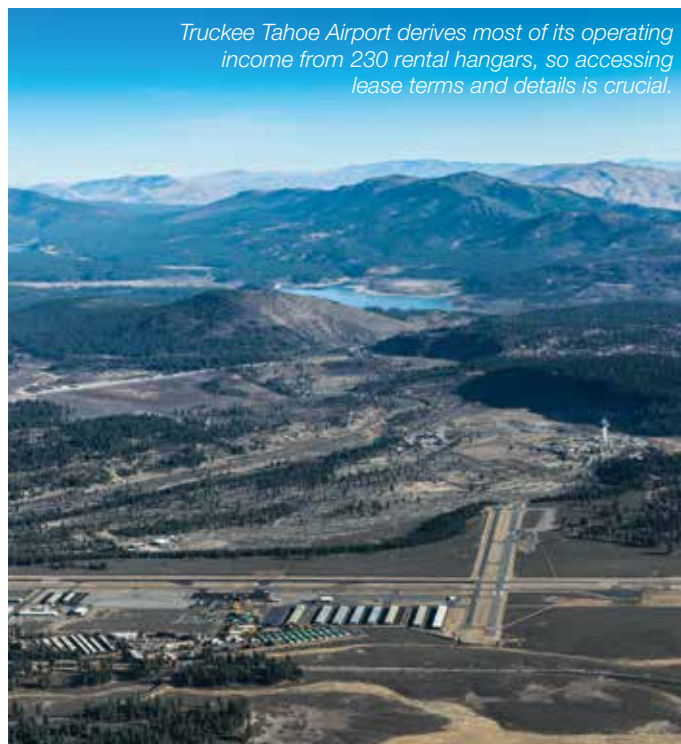
door faces. Due to the slope of hangar roofs and the airport's mountainous locale, east-facing hangars have issues with snow melting and running off the roof, while west-facing hangars tend to have snow melt more slowly on the pavement in front of the hangar. Having detailed information about each hangar facilitates long-term maintenance and helps the airport keep tenants informed.

The software also helps TRK manage an issue that previously caused a lot of hassles. "Our airport has land in two separate counties, Nevada and Placer; and each has its own tax assessor," explains Dykstra. "Plane owners receive tax bills based on the county in which their hangar is located."

The airport, however, is responsible for reporting to both counties about which aircraft are based in which county. "It was extremely time-consuming doing all of these tax records when you had to pull the paper files for all the tenants and report the data," Dykstra recalls.

Streamlining the previously cumbersome process is just one way the airport's purchase has already proved its value. 

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Truckee Tahoe Airport derives most of its operating income from 230 rental hangars, so accessing lease terms and details is crucial.

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Top-to-Bottom Renovations Breathe New Life into Newark Liberty

By Jodi Richards

factsfigures

Project: Terminal Expansion/Renovation

Location: Liberty Newark (NJ) Int'l Airport

Terminal: B

Operator: Port Authority of NY & NJ

Cost: \$347.1 million

Grand Opening: May 2014

Noteworthy Timeline Points: Construction began in 2006; lower level ticket counter completed summer 2007; in-line baggage screening completed summer 2009; connector expansions completed spring 2010; mid- & upper-level renovations completed spring 2012; meet/greet area upgrades completed spring 2014

Design: Port Authority of NY & NJ; Voorsanger Architects

Project Management/Oversight:

Port Authority of NY & NJ; URS Corp.

Structural Engineering: Severud Associates

Construction: VRH Construction Corp.

Baggage Handling System Design: BNP

Concessions/Retail Developer: Westfield

Lighting Design: DGA Associates

Vertical Transportation: VTX

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The \$347.1 million Terminal B modernization at Newark Liberty International Airport (EWR) is a project more than a decade in the making. Set off by growth in international traffic and further inspired by changing security requirements, the comprehensive initiative both expands and renovates a structure designed in the late 1960s.

EWR took an all-inclusive approach toward equipping Terminal B to meet the needs of today's airlines and travelers. The top-to-bottom initiative expanded the building from two to three levels. Features include a new inline baggage screening system, new passenger security halls, a new baggage claim area, new domestic departure hall and new ticket counters. In addition, crews redesigned the terminal's international departures hall and added extra airline passenger lounges, concessions and a welcome center. The project as a whole will be debuted in May.

The Port Authority of New York and New Jersey manages the majority of Terminal B, including 15 gates in the B2/B3 satellite and a 250,000-square-foot Federal Inspection Services U.S. Customs facility. Delta Air Lines manages the B1 satellite and its nine gates. EWR accommodates roughly 4.5 million annual passengers through its 15 international gates alone.

During the massive modernization program, EWR also completed \$50 million of roadway modifications to better integrate the terminal's three levels into the airport roadway system.

James Heitmann, deputy general manager of New Jersey Airports, explains that significant growth of international traffic in 1999 led airport officials to begin planning the Terminal B modernization from a capacity standpoint. After 9/11, though, the terminal's capacity needs were punctuated with new baggage and passenger screening requirements. The international check-in and passenger checkpoint areas, already plagued by long lines, were further congested by new baggage screening devices required by TSA.

After 9/11, redevelopment of the terminal changed drastically, recalls Ron Reed, who was managing associate and director of transportation and overseas studios for Voorsanger Architects PC during the project. Voorsanger collaborated with the Port Authority on the terminal's new design. Currently, Reed runs his own practice, RREEDD studio.



Ron Reed



Photo courtesy of: John Bartelstone



In addition to relieving congestion and accommodating new security equipment, bolstering post-security passenger amenities also emerged as a top priority. "That became a major constraint after the security requirements went into effect," Heitmann recalls. "We had very limited post-security concessions and airline lounges."

Existing Constraints

Because of Terminal B's layout and location within EWR, it couldn't be torn down and rebuilt. "Terminal B is really smack dab in the middle, so you don't really have any room to expand," Reed adds.

The facility worked well when it opened in 1973, but simply didn't meet the demands of current industry needs, Reed notes. The baggage handling system and lack of space for queuing and passenger amenities made the terminal "inefficient and cumbersome" in the face of post-9/11 security requirements. Capturing and redistributing space became top priorities.

"This project is a great example of existing asset revitalization and reallocation of space," Reed explains. Careful planning and creative design allowed EWR to take a terminal that might otherwise have been demolished and upgrade it for less than half the cost, he notes.

"It really became about how to better utilize the space based on passenger experience," Reed relates. "From that perspective, we started reallocating space and [developing] ideas to gain those needs within the existing terminal footprint."

Critical Phasing

The project was organized into five different phases; and each phase was further subdivided into steps to allow the terminal to remain operational and minimize impact on airlines, concessionaires and travelers.

Reed considers the intricate phasing one of the "genius aspects" behind the project. "We basically did an entire terminal modernization/reconfiguration while maintaining full operation," he emphasizes.

Construction began in 2006 at grade level. A parking facility, which was no longer in use because of security requirements, was converted to accommodate domestic baggage claim, back office operations and ticket counters. The entire lower level, roughly 120,000 square feet, was excavated to increase clearance by two feet.

Because work on the connector expansions and lower level areas occurred in completely new space, construction didn't impact passengers, Reed notes. Roughly 300,000 square feet was added to the backside of Terminal B for security

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zones, post-security concessions and additional airline lounges. Inline bag check zones were implemented on the operations level. With the addition, Terminal B now measures more than 1 million square feet.

After crews relocated existing domestic bag claim devices to the new lower level, EWR made an overnight switch when workers connected the new system then shut down the old one. The baggage belt system was also carefully phased. As new sections came online, old pieces were demolished before the next phase began. "It was really a monumental feat of effort on everybody's part," Reed relates.

Wayfinding signs for temporary facilities and additional customer care staff were crucial to minimizing impact on passengers during the project, adds Heitmann.

The former domestic bag claim area was reconfigured to house domestic departures. All the domestic airlines, which were previously intermingled with international departures in the original departures hall, are now down a floor, on the new level dedicated to domestic departures.

The Port Authority worked with concessions partner Westfield to develop a new mix of food/beverage and retail concepts for the new space.

An additional level on the B2 satellite made room for three airline lounges. British Airlines, Virgin and Lufthansa each outfitted a lounge for their respective customers. "There have been a lot of investments by the airlines, by the concessions — all for the benefit of the passengers," Heitmann comments.

Lufthansa, for instance, invested \$3.7 million in its new Terminal B lounge. A common reception area leads to separate areas for business class and premium passengers. Together, the facilities span more than 4,000 square feet and can accommodate about 130 guests.

Cohesive Construction

Reed says he appreciates that the design team was able to reuse a late-1960s design and give new life to what was an "extraordinary structure at the time."

"We 're-lived' a beautiful space and we maintained that integrity while inserting components and requirements of today's air travel," he states.

Terminal B now exhibits a cohesiveness that didn't exist before, Reed adds. "Anytime there (were improvements) at the terminal, they were always small projects; no one looked at it as a global project," he explains. "This was the first time since the terminal was opened that it was viewed as an entire terminal."

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The new design integrates a previous hodgepodge of different designs and materials, he explains: "When you travel through the terminal, you feel like you're in one space — it's all related."

Designers made a special effort to make the security zone as comfortable and light as possible, he specifies. "Some people get very anxious about going through Security," he explains. A curtainwall and skylight allow for plenty of natural light, and one wall features a backlit layer of 3/8-inch onyx that is laminated with glass. "We were trying to create an environment that is very serene and calming," Reed elaborates.

Instead of reconfiguring the original departures hall, the design team preserved its cathedral-like layout and high ceilings and simply "rethought the space." Offices that were originally behind the ticket counters were lifted onto a mezzanine level that floats over the new ticket counters. Doing so allowed planners to move the ticket counters back 15 feet and increase the amount of passenger queuing space without changing the terminal's footprint.

"It really created a dramatic space," enthuses Reed. "You have this late mid-century shell and inside you have this very lightweight, very contemporary structure that's an insertion into an already dramatic space."

Heitmann describes the new international meet-and-greet area as more free-flowing, because it allows passengers to exit the facility and recheck. Improvements to the vertical circulation allow travelers to access the space more easily, he adds.

The renovated and expanded space is greener, too. The Terminal B modernization was the first major project to be constructed under the Port Authority's sustainable guidelines. As such, crews used numerous recycled building materials throughout construction. Electrical substations were also upgraded and emergency generators installed to facilitate limited operations during extended power outages.

Long-lasting finish materials, like terrazzo flooring, are now part of Terminal B. The new addition, international departures hall and ticketing hall feature etched glass panel walls, providing a very light and clean appearance, adds Reed.

Terminal B's renovated halls, expanded passenger screening areas and new post-security amenities are all receiving great feedback from customers, Heitmann reports.

Looking forward, he notes that EWR plans to replace passenger loading bridges and increase ground power availability to better accommodate the industry's move toward larger aircraft. ✈️

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A command center like this one helps Vancouver Int'l coordinate data from thermal imagers, ground surveillance radar and cameras throughout the airport.

Vancouver Int'l Installs Integrated Perimeter Security System

By Victoria Soukup Jensen



factsfigures

Project: Proactive Security Enhancements

Location: Vancouver (BC) Int'l Airport

Integrated Perimeter Security: CommandSpace™, by FLIR

Size: 24 kilometers

Technologies Employed: Ground surveillance radar, thermal imagers & cameras

Project Timeframe: 6 months

Required Infrastructure Changes: Creation of redundant electrical supply; upgrades to operations center; installation of monitors; seismically rated concrete foundations for equipment

Key Benefits: Increased perimeter security; enhanced operational awareness; increased efficiency of security personnel

Automated Gates: Alpha Cantilever Sliding Gates & Trackless Bi-Folding SpeedGates, by Wallace Int'l

Key Benefits: Increased security; expedited movement of vehicles into/out of secure areas; tailgating prevention

Vancouver International Airport (YVR), in British Columbia, recently installed a high-tech integrated perimeter system that officials believe will save money while effectively screening for potential security breaches at Canada's second-busiest airport.

The 24-kilometer system gathers and coordinates information from thermal imagers, ground surveillance radar and cameras, and feeds the data in real time to security personnel. Importantly, humans determine whether further investigation is necessary.

YVR, which served nearly 18 million passengers and handled more than 228,000 tons of cargo last year, implemented FLIR Systems' CommandSpace™ integrated system in fall 2013. Installation took about six months.

"Ensuring a safe and secure airport is our top priority at the Vancouver Airport Authority, and our state-of-the-art perimeter intrusion detection system is another way for us to do just that," says Craig Richmond, president and chief executive



Craig Richmond

officer of Vancouver Airport Authority. "What's great about the system is that it not only allows our security personnel to monitor the airfield's perimeter 24/7, but it's also an effective tool for providing overall insight into all airside activities — from management to vehicle use."

Some airports have cameras, radar or thermal imaging, but few have integrated systems that incorporate all three technologies, explains Andrew Saxton, FLIR's director of airport security. YVR's system was the company's seventh integrated system installation; the first was at Amsterdam's Schiphol Airport. Overall, the company has provided security systems at more than 50 airports worldwide.

"The value of the integrated system is that instead of the operators seeing there is something going on along the perimeter and having to worry about figuring out which camera is closer, then steering and focusing it, the software system takes care of all that," Saxton says.



Andrew Saxton



Ahead of the Curve

Andrew Boyce, coordinator of security operations at YVR, says that the airport was being proactive when it decided to install the new system to ensure safety and security. FLIR's proposal was selected because it met the airport's overall business requirements; incorporated existing infrastructure, which saved money; and allowed for future reconfiguration, adds Boyce.

FLIR technicians and engineers designed the system after meeting with YVR officials and jointly determining what areas at the airport needed protection and the type of coverage necessary.

FLIR brought in all of the hardware — including poles, radar and imaging equipment — and installed the radar and camera pods, back-end servers and user workstations. It was also responsible for system testing, commissioning and training. YVR was responsible for the design and installation of supporting electrical and data infrastructure.

The airport created a redundant electrical supply to handle the system; upgraded its operations center to accommodate a dedicated central processing unit; and installed monitors. Seismically rated concrete foundations were also installed on



the property for the radar pods. This measure was taken to ensure that the pad and attached system hardware will remain stable and structurally sound in the event of an earthquake, Boyce explains.



Andrew Boyce

The program uses strategically placed ground surveillance radar to pick up suspected motion on the property, explains Saxton. Numerous cameras with thermal imaging capabilities automatically activate, spin and focus to examine and track activity. The cameras are linked; so as an object moves from one camera's field of view, another camera automatically picks it up.

"The system automates the process of figuring out which is the nearest camera to give the best picture of what the radar is looking at," Saxton relates. "Security staff can focus on directing ground crews, using the location information provided by the system, and perform whatever tasks they decide are necessary. It provides a real clear picture of what's going on around the perimeter of the airport with as little effort as possible."

Military-Grade Radar

Saxton describes the system's ground surveillance radar as "exceptionally accurate" and notes that it is the same type used by U.S. military bases in Iraq and Afghanistan. "Because we correlate each sweep of the radar with the next and previous ones, the

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probability of a false target being shown goes down exponentially, so it is near zero," he explains.

Incorporating all three technologies is key to eliminating false alarms, he adds: "Using multiple technologies gives personnel definitive answers that there either is or is not something out there the operators need to pay attention to."

Boyce reports just one snag with the system: An eagle decided to perch on one of its high-tech cameras. The more operators rotated the camera to shake off the eagle, the more it hung on. "The problem was that the eagle's massive talons fell in front of the lens, rendering the camera useless," Boyce recalls.

The airport quickly remedied the situation by installing bird spikes on top of the camera housings.

Manpower & Machines

YVR considers its perimeter intrusion detection system (PIDS) a cost-effective way to keep the airport secure. "PIDS does not replace manpower," emphasizes Boyce. "Rather, it operates 24/7 and monitors at a standard that would be cost prohibitive by using manpower alone."

According to Saxton, airports are increasingly opting for advanced security systems. "Airports are very busy operational areas," he relates. "The last thing they need is to divert resources toward events that do not actually require intervention. At the same time, airports continue to be a prime target for theft and other criminal activity. Airports are looking to step up and use technology to provide a better layer of protection."

Boyce concurs, noting that YVR's system provides ancillary benefits beyond its main mission of enhancing security for airlines,

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passengers, cargo companies and employees: “Operationally, it provides a holistic insight as to the various activities taking place on the airfield at any given time — security-related or not.”

After managing the switch to YVR’s new integrated system, Boyce encourages airports considering similar systems to examine and understand their own business requirements, seek input from their airside experts, research available technological options, and understand how various systems are used in an airport environment with standard operating procedures.

Other Security Enhancements

YVR has also invested in automated gates to help control security at critical airside and groundside locations throughout the airport. All of the Wallace International gates the airport has purchased in the last few years can be integrated into its new perimeter security system, notes Kevin Frain, project manager at Wallace.

“The gates are equipped with high-speed, variable-frequency drive systems, the latest anti-tailgating technology and programmable logic controllers for easy integration into the overall perimeter security system,” explains Frain.

Alpha Cantilever Sliding Gates were installed in front of on-field facilities for Purolator and FedEx as well as at the airport’s

southwest floatplane entrance. All three gates include integrated rack-and-pinion drives and are UL-325 listed.

Because Wallace uses modular construction, delivering and unloading the gates was “quick and simple,” says Frain. The products also came with mounting posts and required hardware.

Trackless Bi-Folding SpeedGates, which feature an open/close cycle time of less than seven seconds, were installed at the airport’s south guardhouse and at the Canadian Air Transport Security Authority (CATSA) vehicle screening area.

SpeedGates help prevent tailgating and allow for fast movement of vehicles in or out of secure areas, Frain explains. The heavy-duty hinges that do most of the work have a lifetime warranty; the drive gearbox is sealed for life; and the gates require only 1.5 hours of service for every 10,000 cycles, he continues. “The UL-325 listed gates are factory-tested and pre-assembled before shipping, ensuring smooth on-site installation,” adds Frain.

The SpeedGates at the guardhouse and CATSA screening area are equipped with traffic control barrier arms; the eight-lane CATSA entrance/exit screening area gate features touch-screen access control systems. 

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GoodLife FITNESS

Airports Pump Up Concessions With Workout Facilities & Other Healthy Offerings

By Kristin Vanderhey Shaw



More than ever, consumers are making purchase decisions based on a desire to take better care of their bodies and minds. Airports, in turn, are taking notice and refining their concessions programs accordingly. From low-fat snacks to full-size workout rooms, airports are offering passengers far healthier options than sitting at the gate with a bag of fast food.

Riding the wave of the health trend, World Health Networks debuted its new generation “FlyHealthy HUB” during Passenger Terminal Expo in March. The HUB is a high-resolution monitor designed to silently engage airport visitors about the healthy products and services available inside a given terminal. It also leads users through a series of free, non-invasive biometric tests such as blood pressure, heart rate and body mass index via voice prompts offered in a variety of language options.

World Health Networks provides the FlyHealthy HUB free to interested airports. The stand-up unit works in conjunction with the organization’s FlyHealthy App, which allows travelers to store their test results and offers discounts to specific health-oriented products and services at individual participating airports.

World Health Networks is a member of the Coalition for Healthful Airports, which reports on best practices for improving the wellness of passengers and employees. Members include the International Air Transport Association, Airports Council International – Europe, the Airline Medical Directors Association and World Heart Federation.

Airport elements reviewed by the coalition include:

- Smoke-free environments
- Healthy food options
- Automated external defibrillators
- Distances marked inside and around airports for walking courses
- Passenger relaxation and massage areas
- Health care facilities such as medical clinics
- Vended products for smoking cessation
- Meditation/retreat/yoga area
- Free access to hand sanitizers
- General facility cleanliness
- Educational displays and passenger health tips, including information on “chair aerobics”

Airports of all sizes are showing increased creativity incorporating healthy features. Hartsfield-Jackson Atlanta International, the world’s busiest passenger airport, worked with the Centers for Disease Control to establish walking routes for passengers on layovers; Burlington International Airport (BVT), a 10-gate facility in Vermont, has added a yoga room. Still others provide free health tests and cardiopulmonary resuscitation (CPR) training.

It’s not all purely altruistic, though; airports are finding that health-oriented initiatives can create new concessions revenue streams and help hold employee health care costs in check.

Lean Bodies & Budgets

Gene Richards, director of aviation at BTV, felt that it was important for the airport to match the culture of Burlington, which some consider one



factsfigures

Topic: In-Airport Health Initiatives

Locations: Burlington Int’l Airport; Dallas/Fort Worth Int’l Airport; Toronto Pearson Int’l Airport

Sample Offerings: Yoga rooms; gyms; healthy restaurants & menu items; automated external defibrillators; walking routes; rocking chairs; exercise suggestions; CPR training

Key Benefits: Higher customer satisfaction; new sources of concessions revenue; positive impact on employee health expenses

Funding: Some airports secure sponsors for health programs; others self-fund their initiatives

Toronto Pearson Int'l opened a workout facility last fall with help from Canada's largest fitness company.

of the healthiest cities in the United States. When airport employees clamored for more secure bicycle parking, the airport added bike racks with the help of a grant. In the warmer months, the racks are full, Richards reports.

"Burlington is a very green city," he relates. "We think it's important for the airport to reflect the themes of our area, and we considered carefully what would be green and sustainable options for our employees and passengers. With that in mind, we implemented water bottle refill stations with filtered water, we source concessionaires that can provide food from 50 to 100 miles of the airport, and we encourage our employees to ride their bikes or walk to work."

BTV also strives to create an environment that is comfortable and calm, much like the area's many bed-and-breakfast lodges. Kennedy rockers are clustered throughout the terminal, with easy access to outlets and Wi-Fi. Two areas feature iPads donated by the *Burlington Free Press* to provide free entertainment for adults and children.

A yoga room, also completely funded by local sponsors, further reinforces BTV's commitment to health and wellness. Evolution Yoga, a Burlington-based yoga studio, consulted with Richards and his team to establish the right look and feel for passengers. Evolution also maintains and stocks the airport yoga space on a daily basis. A placard on the wall lists the sponsors who donated



Gene Richards

materials and services, from sustainable bamboo flooring to a hand-lettered glass front.

"We're lean and mean at our airport, and it's important to us to provide the amenities our passengers and employees want," Richards comments. "So we have found ways to make it work. We try to relieve stress for travelers coming through Burlington with an abundance of (power) outlets, food choices, rocking chairs and yoga. And our wellness committee is constantly on the lookout for more ideas."

Currently, BTV is developing walking trails, both inside and outside the airport. And once again, airport personnel found a sponsor for the project: Blue Cross Blue Shield.

Across the Border

Toronto Pearson International Airport (YYZ) opened a full-size workout facility last September, with support from GoodLife Fitness, the largest fitness company in Canada. The gym includes cardiovascular equipment with personal television screens; strength training equipment and free weights; a lounge area with massage chairs; and changing rooms with towel service, private showers and lockers. Catering to the specific airport population, it also includes a luggage storage area.

YYZ officials also asked GoodLife to suggest some exercises for travelers whose itineraries don't allow them to use the pre-security gym. YYZ developed the information into advertising materials that help promote the facility and the airport's healthy

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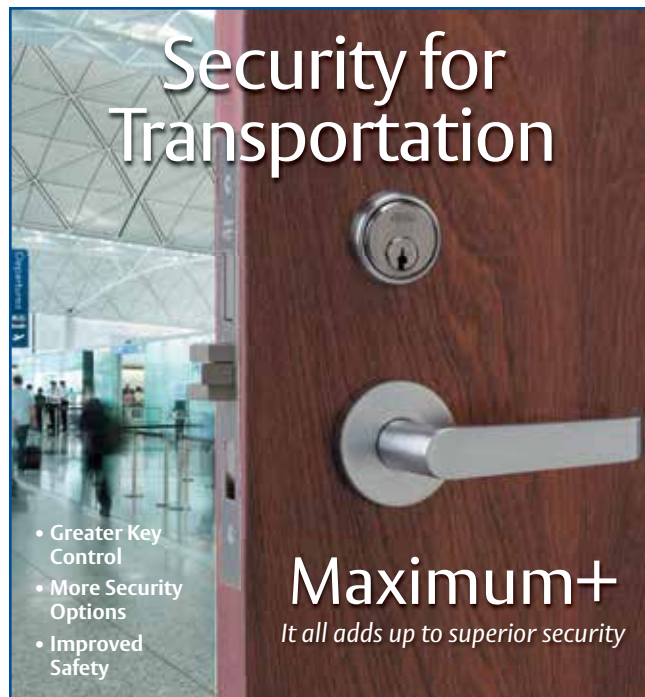
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travel options, explains YYZ spokesperson Corrinne Madden.

The airport also hosts several employee health and fitness programs from the Health and Wellness Committee of the Greater Toronto Airports Authority's Fire and Emergency Services. "It's important that employees are both happy and healthy in order to provide the traveling public with the best service," says Madden. "The health and wellness programs are designed to create awareness and confidence in all aspects of health and fitness."

One of the committee's new programs aims to educate members of the airport authority's fire department about healthy, nutritional food.

Employees and passengers alike can choose from a number of airport restaurants that feature healthy dining options:

- Camden Food Co. offers local products; organic entrees; a breakfast bar with yogurt, oatmeal, etc.; a salad bar; and organic baby/children's food
- Freshii features salads, rice bowls and wraps made with fresh ingredients
- Brands like Purblendz and Extreme Pita provide detailed nutritional information on their menu boards to help diners make healthy choices

In addition, virtually all restaurants at YYZ offer vegetarian meals, gluten-free selections or vegan options. Many of the restaurants operated by OTG, such as Heirloom Bakery and Fetta, source products from local suppliers where available and offer a range of organic options in many locations.

Brioche Doree and The Marketplace, both HMS Host restaurants, promote grab-and-go kids' meals with veggies and dip, cheese, fruit and other fresh choices via their "Kidz on the Fly" selections.

Elsewhere in the airport, YYZ promotes its Public Access Defibrillator Program. The initiative not only places 190 automated external defibrillators (AEDs) in public spaces throughout the airport, it also educates employees about using the life-saving devices.



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“Almost 40,000 Canadians die each year of Sudden Cardiac Arrest (SCA), which occurs when the heart’s electrical system malfunctions and stops beating,” explains Madden. “Since its inception in 2002, the AEDs across Toronto Pearson have saved many lives. Historically, the survival rate for SCA victims was less than 5 percent in North America. In 2013, the survival rate increased to 40 percent, which can partly be attributed to the introduction or expansion of many public access defibrillation programs, like the one at Toronto Pearson.”

The public education program also sends fire and emergency service personnel into the terminal with a “Heart Cart” to educate passengers and airport employees about CPR basics and using AEDs.

Living Well at the Airport



David Magaña

Health initiatives at Dallas/Fort Worth International (DFW) didn’t take a big chunk out of the airport’s budget, but they do pay for themselves in customer satisfaction, says DFW spokesman David Magaña.

A walking path, measured in steps, is popular with international passengers in Terminal D. And a yoga area opened between terminals D and B in 2012.

DFW also requires concessionaires to offer healthy and vegetarian options, per guidelines from the Physicians’ Committee for Responsible Medicine. The airport’s website provides a guide for healthy eating, with a list of items that contain fewer than 600 calories, a maximum of seven grams of fat and less than 850 milligrams of sodium.

“We’ve discovered that changing to healthier concessionaires brings more business,” reports Magaña. “We talk to our passengers every day, we do surveys frequently, and made educated guesses to determine where the trends are headed for both travelers and employees.”

The American Heart Association and American Airlines’ Occupation Health Services supplement DFW’s efforts by helping passengers learn and practice lifesaving Hands-Only™ CPR. A touch-screen kiosk in Terminal C allows hands-on practice of the method with an actual CPR mannequin and an automated watch-while-you-practice CPR program. A video that presents a brief introduction about the steps of Hands-Only CPR is followed by a practice session and 30-second test. The kiosk even provides feedback about users’ hand placement and the depth and rate of their compressions.

DFW Airport recently earned two major honors for its LiveWell employee wellness program. It was named one of the 100 Healthiest Workplaces in America by Healthiest Employers, a technology and data research company focused on corporate wellness. The airport also earned recognition as a Well Workplace for 2014 from the non-profit Wellness Council of America.

“The LiveWell program is based on sustainability and applying those principles to our people,” says Magaña. “Keeping our employees healthy means fewer sick days, fewer workers’ comp claims and a happier work environment overall. With the costs of health care on the rise, it’s a way to level those costs.” ✈️

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TOP: San Diego International Airport | ABOVE: Chicago O'Hare Runway 10L | RIGHT: Miami Intermodal Center


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New Times Call for New Executive Recruitment Methods

By Robert Nordstrom

 The Boomers are bailing — retiring to places where the weather is warm, drinks are cold and taxes low. As they leave the workforce in droves, many organizations struggle to fill their senior-level positions. Further complicating matters, the “millennials” who hope to fill the Baby Boomers’ spots have a distinctly different set of qualifications, personal attributes and attitudes about work.



factsfigures

Project: Executive Recruitment

Locations: Northwest Florida Beaches Int'l Airport;
Houston Airport System

Executive Recruiter: Aviation Career Services

Airports — large and small — are no exception to the trend. Lance Lyttle, chief operating officer of the Houston Airport System, is keenly aware of the industry's changing personnel market. "People from the Y Generation (typically defined as those born between 1980 and 1999) have a totally different set of expectations than their predecessors," Lyttle comments. "They rely heavily on technology and social media. They expect to be able to work from home, at least some of the time; and, unlike the Baby Boomers, they do not necessarily see themselves working at any one company for a lifetime."



Lance Lyttle

While many grumble about Generation Y workers, Lyttle has a different perspective: "Their greatest attribute is the fact that they come in with a whole different way of looking at things. Guess what? People traveling through airports come from various generations as well, and their expectations are different. For example, if we have a directional screen at the airport, someone from the Y generation may expect it to be a dynamic touch screen, whereas a Baby Boomer may be satisfied with a static screen. In order to compete, we need to bring in new people with new ideas and expectations."

Finding the cream of the Generation Y crop can be tricky. Typically, Houston Airport System tries to fill executive positions in 120 days and lower-level positions in about 50. However, it recently spent months trying to find the right person to hire as its assistant director of project management. With initial efforts proving unfruitful and its in-house executive recruiter already stacked with multiple other positions to fill, Houston Airport System recently hired Aviation Career Services to find it an "A player" candidate for the three-airport system that served more than 50 million passengers in 2012.

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"We don't make the assumption that 'A players' — the people who have a 90 percent chance of achieving the specific goals for the position — are out there looking for a job," explains Lyttle. "So the first item on our agenda is sourcing."

The outside executive search company provided background information on three candidates in approximately three weeks, scheduled preliminary telephone interviews and "really kept us in the loop," recalls Lyttle. In addition, the firm also flagged a conflict between the type of candidate HAS was looking for and the compensation it was offering. "One of the first things they pointed out was that our salary range was not competitive, which is probably why we struggled in our initial in-house search," he explains. "That was really good information, and we made the appropriate adjustment."

Outside the In-House Box

Northwest Florida Beaches International Airport (ECP), a smaller operation that served approximately 816,500 passengers last year, also recently retained Aviation Career Services. With the company's help, ECP hired its new deputy executive director in about four months, reports Executive Director Parker McClellan.



Parker McClellan

"We have a small staff and knew right off the bat that doing it ourselves would not be the most efficient way to go," explains McClellan. "We were looking for someone to join our team with experience running an airport, (someone) with an emphasis on operations who would be able to provide guidance and input as we develop the airport."

After ECP wrote a job description for the position, Aviation Career Services posted a presentation about it and the airport on its website, advertised the opening via other industry media and served as the initial point of contact for interested candidates.

"I didn't have to handle calls," notes McClellan. "They reviewed the resumes, did preliminary interviews, verified the data submitted, then recommended their top 10 candidates for us to review further and set up interviews with selected candidates."

Nedra Farrar Swift, a recruitment and human resources associate for Aviation Career Services, reflects on how drastically the search process has changed since she began in the mid-1980s. (Before joining Aviation Career Services, Swift held human resource leadership positions at several major airports across the country.) Without the Internet, airports and search firms relied on local newspapers and industry association newsletters to advertise available positions, she recalls.



Nedra Farrar Swift

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The attributes airports look for in potential executives has also evolved, notes Eric Mercado, the firm's managing director. "There's a move toward finding more diverse candidates with backgrounds broader than solely operations and maintenance," explains Mercado. "Candidates may have to have a background in finance, business development and marketing — all of which are major concerns at airports today."



Eric Mercado

Those seeking higher-level positions have also changed, adds Swift: "(Years ago,) all of the resumes I received were from people with an operations background who were either getting ready to retire or who had already retired from the military."

Now, candidates often come from schools such as Southern Illinois University and Embry-Riddle Aeronautical University and have backgrounds in areas other than operations. They often initially apply for jobs in general areas of aviation management, and are then promoted to supervisor, assistant general manager and eventually general manager, Swift explains.

"These candidates are no longer being educated and trained in a single specialty," she says. "They are being educated to take on any number of management responsibilities."

It's also less likely to simply find an airport director from another airport these days, notes Mercado. "The Boomers aren't there to take their experience from one airport to another anymore," he relates. "Airports have to conduct a deeper search to find individuals with the required skill sets."

That's where his firm's resources and experience can help, he emphasizes: "We maintain a database of more than 4,000 airport professionals whom we can reach out to. Being airport practitioners in the industry, we know many of the players."

On the Flip Side

From the job seeker's perspective, timing can be a critical issue. Richard McConnell, whom ECP hired as its new deputy executive director, feels that some recruiters and airports take too long to contact interested candidates.

"Applicants need to be informed if they don't make it through the first cut," says McConnell. "In the old days, you received a letter; then it was an automated email; and

now you don't hear anything. Six months down the road, you might get a call saying you're being considered; but, shoot, I might be long gone by then."

In contrast, McConnell appreciated the ongoing communication and post-interview feedback he received during his recent search. "It helps tremendously to know after the interview whether I'm communicating clearly and whether I'm offering the information the interviewers are looking for," he notes. "Some of this boils down to professional courtesy." ✈️



Richard McConnell

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The Right Questions Yield the Right Hires

With three airports to staff, Houston Airport System has developed a unique process to find and screen candidates for George Bush Intercontinental Airport (IAH), William P. Hobby Airport (HOU) and Ellington Airport (EFD).

When an airport is approved to hire a new employee, it begins the process by developing a scorecard with reality-based outcomes unique to the position it wants to fill. If, for example, IAH needs to hire a chief development officer, one of the outcomes might be increasing non-aeronautical revenues by X% within a year.

Candidates who make it through the sourcing process are further winnowed through a four-step interview process:


1. The hiring manager or a human resources representative conducts initial screening interviews via telephone or Skype. Typically, they last about 30 minutes and are used to determine which candidates should be brought in for further consideration.
2. Next, onsite top-grading interviews are conducted by a panel consisting of the hiring manager, a human resources representative and someone from an outside division. Questions focus on candidates' previous positions: What were you hired to do? What accomplishments are you

most proud of? What were some of your low points? What changes did you make within the organization? Similar questions are repeated regarding each of a candidate's previous employers in an effort to identify trends. Has the person consistently advanced over the years? Did he or she achieve prescribed goals? Candidates are also asked to describe their major accomplishments. If the person was hired to do X, is that his or her proudest accomplishment? Throughout the process, interviewers look for red flags such as difficulty working as part of a team or failing to accomplish primary objectives.

3. During focus interviews, candidates are presented with specific reality-based scenarios such as: How would you increase on-time departures X% in one year? Individuals with specific expertise in a candidate's area conduct and evaluate focus interviews. If, for example, the airport is hiring a construction project manager who will be expected to deliver a new terminal within three years, an airport engineer with technical knowledge may serve as the resident subject matter expert during the interview. Candidates are evaluated on how they fit into the airport's culture, whether they share its values, and their overall ability to achieve the desired outcome for the open position.

4. Houston Airport System takes a unique, time-saving approach to its final step, reference interviews, by giving potential hires a list of five days and times and having them coordinate interviews between their references and the airport.

Questions throughout the four interviews are intentionally interrelated and candidates' answers are subsequently cross-referenced. For example, if candidates are asked how their bosses would rate them on a scale of 1 to 10, the bosses are asked how they would rate the candidate during reference interviews. Similarly, when candidates are asked to discuss their strengths and weaknesses during top-grading interviews, those answers are later compared with references' assessments of their strengths and weaknesses.

"While we're interested in what the person has done in the past, we're more interested in how the person will achieve specific outcomes," says Lance Lyttle, chief operating officer for the Houston Airport System. "We want someone who has a 90 percent chance of achieving these outcomes." 



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Project: Runway Relocation & Reconstruction

Location: Nashua (NH) Airport - Boire Field

Owner & Operator: Nashua Airport Authority

Total Cost: \$23 million

Airport Improvement Program Grant:
\$16 million

Funding: 95% FAA; 2.5% NH Dept. of Transportation; 2.5% Nashua Airport Authority/city of Nashua

Construction Timeline: Nov. 2011 – fall 2013

Project Management

Engineering Design & Construction Phasing:
Gale Associates

Environmental Subcontractor:

GZA GeoEnvironmental

Soil Testing & Geotechnical Services: Miller Engineering & Testing

Surveyor: Little River Survey Co.

Construction Team

General Contractor: Continental Paving

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Airport History: Nashua Airport dates back to 1934, when the city bought a small grass runway airfield without any hangars. Over the next several years, the city paved the 2,000-foot runway and constructed some buildings with federal help. In 1943, it was named Boire Field, after Ensign Paul Boire, Nashua's first casualty in World War II. The Nashua Airport Authority was established to oversee the airport in 1961 and a control tower was added in 1972.



Boire Field Runway Reconstruction Among FAA's Largest General Aviation Projects

By Dan Vnuk



For years, tenants and transient pilots alike “made due” with Runway 14-32 at Nashua Airport - Boire Field (ASH) in New Hampshire. At 5,500 feet long, the airport's sole runway was simply too short for some jets. In addition, it hadn't been repaved since 1987 and was crowded by an adjacent taxiway.

All of those shortcomings were fixed — and several other airfield improvements added — when the general aviation airport built a new 6,000-foot runway just 300 feet northeast of 14-32's original location. Construction concluded in fall 2012, and the final inspection occurred in June 2013, after all punch list items were completed.

As anticipated, the extra length was a welcome addition for both based aircraft and fly-in traffic. The runway's new position provides proper separation between it and a nearby taxiway, and also allows room for runway safety areas at both ends, thus meeting current FAA design standards.

The new 14-32 is also more level than its predecessor. The 32 end of the former runway was 10 feet lower than the 14 end, which previously affected both takeoffs and landings.

ASH's runway improvements were made possible with a \$16 million Airport Improvement Program grant. According to FAA representatives, the airport's new runway is one of the largest general aviation construction projects the administration has undertaken to date.

Total cost of the project — including wetland mitigation, tree clearing and the construction of easements for nearby homeowners — was \$23 million.

Corporate Friendly

Crews built ASH's new 6,000-foot runway directly next to its existing 5,500-foot runway, which was at the end of its 25-year lifecycle. After the new 14-32 was commissioned, crews removed the previous runway.

Construction of ASH's newly located Runway 14-32 spanned almost two years and concluded last fall.



The additional 500 feet of length provides a greater margin of safety and allows larger jets to take off with full fuel tanks and more passengers. The extra capacity facilitates transatlantic flights to and from ASH.

Currently, 14 jets are based at the 400-acre, two-FBO airport. The largest is a 19-passenger Gulfstream V. With a standard takeoff distance of about one mile, G-V pilots had little margin of error on ASH's previous 5,500-foot runway — particularly in summer, when hot weather provides less lift during takeoff. The new, longer runway allows the Gulfstream V and other corporate jets more room during takeoffs and landings. With a range of 5,800 miles, the G-V based at ASH can now travel from there to China — and points in between — without stopping to refuel.

Beyond domestic and international flights for corporate tenants, ASH's new and improved runway serves a diverse blend of traffic — including military missions, recreational jaunts, charter activity and touch-and-go practice for pilots in training.



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In addition to relocating Runway 14-32, crews rebuilt three stub taxiways and extended a taxiway along the full length of the new runway.



One of the few kinds of traffic it doesn't accommodate is scheduled commercial service.

Relocating and upgrading Runway 14-32 was a capstone project for Airport Manager Royce Rankin, who oversaw all but the final inspections and sign-offs. After serving as airport manager for more than two decades, Rankin retired at the end of May and transferred responsibilities to Stephen Bourque.



Stephen Bourque

"I could not be more proud of the total cooperation of all involved in the endeavor to make Boire Field a truly first-class airport," Rankin reflects.

More Than Concrete

Construction of the new 14-32 lasted nearly two years — including a five-month delay due to winter storms. Work began in November 2011 and finished in fall 2013. The entire project, however, spanned seven years from initial planning to completion, notes Rankin.

In addition to installing the new runway, crews rebuilt three stub taxiways and extended Taxiway A on both ends to mirror Runway 14-32's new length. Other components of the project included markings, lighting and signage for the new runway and taxiways. The airport also installed obstruction lights on the east side of the runway, a new instrument landing system glideslope on Runway 14 and a precision approach path indicator on the 32 end.

When Acting FAA Administrator Michael Huerta came to ASH for its dedication ceremony, he mentioned the airport's importance as a reliever for Boston's Logan International Airport and described ASH's new runway and other airfield enhancements as "critical safety improvements."

Bonus Buys

Because ASH's runway project came in under budget, the airport was allowed to purchase two pieces of snow removal equipment with some of its allocated, but unspent, funds. The airport will add a new John Deere 764 high-speed rubber-tracked dozer for moving snow and will take delivery of a Wausau-Everest SnoGo MP-3D in April for use with the airport's existing front-end loader.



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Snow removal equipment was purchased with unspent project funds.

ASH plans to use the last of its unspent grant funds to upgrade the airport's perimeter fence and gates. Work on the security enhancements is expected to occur later this spring and summer.

Local Support

With the FAA providing 95% of the project's funding, the New Hampshire Department of Transportation and the airport authority/city of Nashua each paid for 2.5% of the costs.

Christopher Williams, president of the Greater Nashua Chamber of Commerce, highlighted the airport's importance to the local community and the 30 businesses that directly revolve around the airfield when he spoke at the project's groundbreaking ceremony in 2011. "Business that flows through Boire Field amounts to \$28 to \$30 million annually for the region, and there are roughly 300 jobs directly connected with the airport," said Williams. "Between employing people and its economic impact, the airport itself is one of the major economic engines in Nashua."

ASH is located just three miles from Nashua's central business district. City officials estimate that the recent airfield construction created more than 40 full-time jobs.



"When you look at the total picture, including the reconstruction, it's quite a bit of money being put back into the local infrastructure," noted Williams.

With the project complete and aircraft operators enjoying ASH's upgraded airfield, city and airport officials hope that the new runway will bring even more business interest and investment to the area. ✈️

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Airports Get Social on Facebook and Twitter

By Jennifer Bradley

The average A380 is said to contain 450 smartphones, 213 laptops and 207 tablets. And the passengers carrying them continually leave imprints on social media sites around the world.

With passengers Tweeting, blogging and Instagramming so much, few airports — large or small — can afford to be without a social media presence these days.

Do you know what passengers are posting about your airport? Are you leveraging Twitter or Facebook to reach out to them?

“With social media, you can go directly to your audience,” says Reese McCranie, director of communications at Hartsfield-Jackson Atlanta International Airport (ATL). McCranie came to the airport from the mayor’s office just last year and has since implemented an aggressive, successful social media



Reese McCranie

factsfigures

Project: Social Media Initiatives

Airports Profiled: Akron-Canton; Hartsfield-Jackson Atlanta Int’l; San Diego Int’l

Sample Programs: Facebook profiles; Twitter feeds (social & emergency-only); airport blogs

Industry Firsts: Akron-Canton Airport was the first to establish a blog (2005) & use Facebook (2007)

Key Advantages: Fast, low-cost way to receive & respond to customer feedback; allows airports to “humanize” their organizations; effective forum to provide accurate info during emergency situations

Airport/Airline Social Media Specialist: SimpliFlying

program at ATL. “Part of this is constantly reminding people that an airport is more than just a transportation hub,” he says. “We have other things here that are worth talking about.”

Kristie Van Auken, senior vice president and chief marketing/communications officer at Akron-Canton Airport (CAK), agrees. She considers it essential that people think of airports as more than just brick and mortar and relate to “their airport” on a more personal level. Van Auken categorizes social media as a “smart business tool” that allows airports to be open and transparent, similar to the way family members communicate with one another. “Social media tools give the airport genuine customer insights that we simply can’t get any other way,” she explains. “We are able to build relationships by getting to know what our customers truly care about.”



Kristie Van Auken

In 2005, CAK was the first airport to have a blog and in 2007, the first to be on Facebook. These days, the airport is well known throughout the industry as a social media standout. Two young staffers originally pitched the idea to Van Auken. “They offered a very compelling argument for customer engagement,” she recalls.

Be Social

CAK’s social media strategy actually helps guide business decisions, notes Van Auken. “There are several airport choices near us,” she explains. “We work hard to differentiate CAK by being in closer

relationships with our customers and offering a relaxing experience when they fly with us. It defines who we are.”

An airport’s strategy needs to be thoughtfully constructed, but it shouldn’t sacrifice the innate spontaneity of social media, she adds. Messages must be consistent with an airport’s values and brand, and truly reflect its relationship with the surrounding community, Van Auken elaborates.

When identifying the target audience for social media messages, airports shouldn’t overlook their stakeholders, advises McCranie. Because ATL sits on four municipalities, it has an unusually large group to keep informed and engaged. “We have to keep them invested, so they add to our strategy,” he explains.

In January 2008, San Diego International Airport (SAN) became the first U.S. airport to have an employee blog — an idea inspired by Steve Shultz, deputy director of public and customer relations for the San Diego County Regional Airport Authority. Shultz was looking for a way to reach staff and visitors alike, and wanted to create a “human face” for the large organization. The blog began as a grass-roots effort, with rank-and-file employees from each department providing content — a strategic move that resonates with employees as well the public, he reflects. These days, the blog is still active and at the forefront of the airport’s social media program.



Steven Shultz



Jon Graves

SAN also maintains two unique Twitter feeds: one reserved strictly for airport emergencies and another that is purely social in nature.

It's important for an airport's social media to mirror its other communication tools, such as press releases, the annual report and website, notes Shultz. "Unifying the online experience is where we're trying to go at this point," adds Jon Graves, the authority's webmaster and creative director. "We're branding each one of our tools so that every bit of the online experience feels the same to our customers."

ATL's McCranie agrees, noting that consistency in message and narrative across all platforms is extremely important. Despite its more casual nature, social media messages still represent the airport, he emphasizes.

Quality vs. Quantity

To many organizations, social media is a numbers game. It's all about the quantity of fans, followers, re-Tweets, posts and video views. While audience market share is undisputedly important, social media specialists caution newbies that content itself is equally important. It's also what will retain and grow an airport's performance numbers in the long run.

David McMullen, vice president of airports at SimpliFlying, encourages airports to remember that a large following does not automatically mean they are doing something right. "A strong brand name can often account for large followings," advises McMullen. "(Conversely), Facebook is a place where smaller airports can punch above their weight and gain loyal followers and customers."

SimpliFlying is a consulting firm that specializes in helping both airlines and airports engage "connected travelers." Its airport clients include Toronto Pearson International, Halifax International and Kuala Lumpur International.

McMullen, who provided the earlier statistics about just how connected A380 passengers are, cautions airports that travelers expect value for the time and effort they spend engaging an organization via social media.

According to him, Facebook is currently a stronger medium than Twitter. But he predicts that Twitter and video will boom for airports in the coming months and years.

Maintaining Momentum

Once an airport's strategy is set and the quality of its social media messaging is established, it's up to the staff to keep the messages



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going. The growth of SAN's social media efforts has been strictly organic. Low to no cost was originally the big selling point for senior management, recalls Shultz. "That continues to be a big advantage," he adds.

The airport, however, recently incurred social media expenses, when it purchased Facebook ads to help boost ticket sales for a large art symposium it was hosting. The buy proved effective: Attendance doubled.

Thella F. Bowens, president and CEO of the San Diego Airport Authority, recently spoke about social media at a public forum. Using blogs and Facebook can help airports "keep a finger on the pulse of a very broad and diverse stakeholder base in a way other tools do not allow," she noted. When there is a maintenance problem in an airport restroom, for instance, it will typically be on Twitter before it reaches the airport via older communication channels such as onsite employees or comment cards.

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Planning for the Worst

Beyond marketing and routine customer interface, social media can also play a vital emergency management role. "In time of crisis, people are going to Tweet and post Facebook images, videos or comments before you even have a chance to get the facts out," says Reese McCranie, director of communications at Hartsfield-Jackson Atlanta International Airport (ATL). "Whoever is doing your social media needs to be part of the discussion when operational decisions are being made and responses being given."

During a recent tabletop exercise, ATL personnel developed the idea to create a unique Twitter hashtag to help manage emergency communications. "That way, everyone is following the same conversation," explains McCranie. "Twitter is like the Wild West sometimes; but if enough people follow a specific hashtag, they will know to go there for the latest information." This tactic also allows the airport to have a solid voice in the conversation, which provides opportunities to dispel rumors and allay misguided fears.

Although they weren't all-out weather emergencies, two snow and ice storms inspired ATL to take its social media efforts to a whole new level this winter. When weather threatened to disrupt operations, McCranie took a crew out onto the airfield to shoot



pictures and video of planes being de-iced and runways being plowed. They even Tweeted from the control tower.

"I really wanted to show a behind-the-scenes look at what we were doing to prepare," he explains, noting that the goal was to show airport activities that people don't usually get to see." That's what grows your numbers, your retweets, shares on Facebook. All of that is very important."

The Tweets and posts also confirmed to passengers that the situation was under control and the airport was open for business, he adds. By using a quality message to deliver unique information, ATL used social media to provide something people were interested in seeing — and forwarding on to their family and friends.

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A big hit at the last show was the live demonstration area where visitors can "try before they buy" – a unique feature of the International Airport Expo show. In addition, the outside area allows GSE manufacturers to demonstrate their equipment from their static display areas that allow controlled GSE operation. This in turn enables the visitor to get a real feel for the equipment in which they are interested.

But it's not just about the outside exhibits – there are also a substantial number of industry suppliers, GSE manufacturers and service providers that can be visited within the climate-controlled covered area that comprises over 20,000 square feet of display area.

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Shultz sees such criticisms or complaints as opportunities to educate and promote the airport's message. By using social media, SAN can respond promptly about what is being done to address the problem or simply change the way the issue is viewed, he explains.

The CAK team places a similarly high value on the speed and power of social media. "It's a very, very good tool for real, true customer engagement and feedback," emphasizes Van Auken.


CAK also joins the flow by following media trends such as the 2012 Sweet Brown video and adapting them to an airport theme. A good picture on Throwback Thursday or images of a volunteer who flies veterans and their families for no charge can draw a lot of positive attention to the airport's Facebook page, notes Van Auken. "That takes people to a very good place," she explains. "When they are searching for airfare, they may subconsciously be thinking about how we promote these things, how important they are."

Ready for Takeoff?

As a consultant, McMullen has seen many airports try to "jump on the social media bandwagon," without fully committing to the endeavor. A strategic plan is essential right from the start, he notes.

Shultz advises airports to start small, on a platform they feel comfortable with and can easily manage. "A mistake newcomers make is being impressed by several different tools and simultaneously launching them at one time," he relates. Learning new platforms is a challenge — even for social media veterans like SAN, he reflects.

On the other hand, McMullen cautions against half-hearted dabbling, as it can render a medium ineffective. When it comes to social media, there is currently a wide range of proficiency and experience levels in the airport industry, he observes. Regardless of where facilities fall on that spectrum, he encourages all airports to establish specific objectives for their social media programs, develop relevant key performance indicators, and then track their results and adjust their strategies as needed.

In 2014, the quality of followers will be far more important than the quantity, he warns: "Airport marketers will strive for creative ways to deliver more relevant engagement with passengers, as travelers continue to limit their friends on Facebook, removing irrelevant content from their newsfeeds and clicking 'unfollow' on airports that aren't adding any value to their life." 

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Small Airports Adopt Airport City Strategies

By Kathy Scott

factsfigures

Project: Growing Non-Aeronautical Revenue

Location: Salina (KS) Regional Airport

2012 Traffic: 62,300 operations

Revenue Source: Industrial park

Size: 700 acres

Sample Tenants: Convenience stores; educational institutions; light manufacturing businesses; warehouse/distribution centers; pizza factory; rescue mission; etc.

Total Employment Impact: 10,000+ jobs

On-Airport Tenants: Schwan's; Blue Beacon

Noteworthy Feature: 12,300-foot primary runway, built when Schilling Air Force Base occupied the field

Location: Cape May (NJ) Airport

Landside Development: Industrial park

Airport & Park Operator: Delaware River & Bay Authority

Sample Tenants: Brewing company; print shop; construction firms; auto parts store; etc.

Noteworthy Features: 1,000 additional acres of underutilized land; recently created historic district



Pizza makers, football teams and brew houses certainly aren't the most common sources of non-aeronautical revenue; but they're exactly the kind of businesses currently adding to the bottom line at some airports.

The type of airports benefiting from non-traditional tenants and activities may also surprise some in the industry. While many associate the airport city or aerotropolis model with large, metropolitan areas, small facilities in more rural settings are also successfully leveraging the concepts. Perhaps the term "airport town" will become equally popular.

The Salina Airport Industrial Center, just outside the perimeter fence of Salina Regional Airport (SLN) in Kansas, includes apartments, convenience stores, two secondary education institutions (Salina Area Technical College and Kansas State University at Salina), light manufacturing businesses, warehouse and distribution centers, the world's largest pizza factory, a rescue mission, an agency that helps individuals with disabilities find jobs and develop skills, and more.

The total employment impact of the industrial park is estimated at more than 10,000 jobs, according to The Center for Economic Development and Business Research at the W. Frank Barton School of Business at Wichita State University.

The bustling 700-acre landside development shares the main road with SLN, a general aviation/commercial airport born from roots of Schilling Air Force Base, which operated there more than 50 years ago. With a year to plan for the government's exit, the city of Salina used "enabling legislation" to acquire, own, maintain, operate and improve the base. In 1965, the Salina Airport Authority was formed to oversee SLN, Salina Aviation Service Center and the Salina Airport Industrial Center.

Melissa McCoy, manager of public affairs and communications for the airport authority, acknowledges that the early years were extremely difficult, but the Schilling Development Council established an airport-education-industry complex to replace the military operations.

Today, more than 80 businesses and 4,100 jobs are located at the Salina Aviation Service Center and Salina Airport Industrial Center, McCoy reports. "Airport activity can be tied to more than \$323.6 million in wages," she elaborates. "In addition, net tax impacts were estimated to be more than \$15.8 million when combining impacts to Salina, Saline County and Kansas."

Landside development opportunities at SLN were undoubtedly bolstered by nearly \$250 million of airfield infrastructure the federal government left behind when it closed the base. Few airports SLN's size have a 12,300-foot primary runway. In 2013, it logged about 75,184 operations and

A former military hangar at Salina Regional was transformed into a practice facility for the local arena football team.
Left: A brew house provides valuable year-round lease revenue for Cape May Airport.



1,983 enplanements. In addition, several of the former military barracks are currently being used as apartments, and a large military hangar now serves as a practice location for the Salina Bombers arena football team.

With such diverse business development already surrounding SLN, the airport authority's mission remains focused on growing jobs and payroll in the area, notes McCoy. "Currently, we are targeting our efforts toward MRO (maintenance, repair and overhaul) operations, light manufacturing and warehouse and distribution centers," she adds.

Inside SLN's security fence, corporate clients such as Schwan's and Blue Beacon continue to be key tenants. Schwan's is the parent company of Tony's Pizza, the town's number one employer. With corporate offices in Marshall,

MN, Schwan's executives routinely fly out of and into SLN. Blue Beacon, which is headquarters in Salina, uses its flight department to shuttle local personnel to the company's network of more than 100 U.S. and Canadian truck wash locations.

Cape May's Calendar Challenge

Tourism is king in Cape May, NJ; and Cape May Airport (WWD) serves at his majesty's pleasure. From May to October, the picturesque town's year-round population of 4,700 swells up to 40,000 people; and traffic at the otherwise-quiet general aviation airport increases significantly. Last year, WWD handled 39,000 airplane and helicopter takeoffs and landings during the six-month tourist season — a healthy portion of its total annual traffic.






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It was consequently a significant development when Cape May Brewing Company began leasing 1,500 square feet of space at the airport's industrial park. Not only was it a success for the brewer (which increased its production from 62 barrels in 2011 to over 1,500 last year), the airport also gained a valuable source of year-round revenue.

Delaware River and Bay Authority, the bi-state transportation agency that manages the two-runway airport, also operates the nearby industrial park and handles its leases. The Economic Development Committee — comprised of local, county and state officials — works with the authority to help grow the airport's economy. In April, senior officials from the two organizations brainstormed about ways to bring more jobs to the area.

In addition to Cape May Brewing Company, WWD's industrial park currently includes a print shop, several construction firms, an auto parts store and various other businesses. The two guiding organizations, however, see potential for even more growth. With an additional 1,000 acres of underutilized land available at the airport, infrastructure upgrades such as utilities could lead to more site buildings and development.

The airport's newly created historic district — established in cooperation with local officials and representatives of the Naval Air

Station Wildwood Museum — will also affect future development. Currently, the authority is developing a revised airport layout plan for the FAA that reflects the newly created historic district, with areas designated for growth and development.

"The designation removes some of the uncertainty at the airport," explains Airports Director Stephen Williams. "You don't have to go through the process: 'Can I take this down? Can I build here?' We're trying to be smart about how we develop on the airport."



Stephen Williams

Big & Small

Whether it's local development at small airports in towns like Cape May, NJ, or the huge hotel and transit center currently under construction at Denver International, airport cities share common elements.

In *The Way Forward*, John D. Kasarda, Ph. D., asserts that they grow based on four conditions:

1. The need for airports to create new non-aeronautical revenue sources — both to compete and to better serve their traditional aviation functions
2. The commercial sector's pursuit of affordable, accessible land

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- 3. Increased passenger and cargo traffic generated by gateway airports
- 4. Airports serving as a catalyst and magnet for landside business development

Kasarda also notes the vital nature of public-private partners to assist financial and operational growth: “The airport city management model is thus quite distinct from the more traditional civil-engineering and aeronautical systems airport management model typically guided by government employees who run airports like public utilities using public-sector principles. The equally important commercial development role requires different strategies and operational skills driven by private-sector principles, fusing innovative management, finance and marketing with logistics and real estate knowledge.”

Regardless of its size or structure, landside development can provide an enticing stream of non-aeronautical revenue in a variety of markets. In fact, the airport city or aerotropolis model, made *Time* magazine’s 2011 list of *10 Ideas that Would Change the World*.

No wonder so many airports now have real estate divisions, sales support teams and tenant service providers in addition to more traditional operations departments. 



A newly created historic district will affect landside development at the small Cape May Airport.

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April Meyer

April “the Terrazzo Queen” Meyer, NCIDQ and LEED AP, is a principal of Architectural Alliance International with 14 years experience in airport interior design. She has worked at 20 airports, including Gerald R. Ford International, Nashville International, Doha International and Minneapolis – St. Paul International. She is currently assisting Phoenix Sky Harbor Airport with the development of Interior Design Standards.



Joe Allen

Joe Allen, AIA and LEED AP, is an associate of Architectural Alliance International with 11 years of experience in airport planning and design. He has completed projects at 10 airports, including Bill and Hillary Clinton National, San Jose International, Northwest Arkansas Regional and São Paulo–Guarulhos International. He is currently assisting Phoenix Sky Harbor Airport with the development of Interior Design Standards.

It’s What’s on the Inside!

Imaginary surfaces, non-movement areas, BRLs, BLTs* and OFAs — they all sound exotic and almost magical, right? Important as they are, though, esoteric airport planning standards remain invisible to passengers. A BRL (building restriction line) may be critical during terminal placement, but it doesn’t affect John and Jane Traveler’s sense of well-being as they head to their gate.

For passengers, the quality of a terminal or concourse is far more tangible. Travelers continue to live their lives when passing through airports — they eat, drink, love, weep and rejoice. Invisible, intangible forces such as design quality, trends, consultant experience and budget affect passengers far more palpably than arrival curves, OFAs (object-free areas) and other planning standards.

But while the passenger experience is central, it is not the only key design consideration. Long-term maintenance and replacement costs frequently dwarf initial construction and installation costs and should also be taken into account during planning.

How can these considerations be implemented to create the best interior environment for *your* airport and passengers? Progressive airports are developing customized Interior Design Standards to help assure baseline quality. Such standards are especially important with relatively few airport interior specialists available to carry forward lessons learned — how to minimize wear and tear on carpet and wall surfaces, for instance. Airports also often engage on-call engineers or local design firms with minimal airport interiors experience to assist with projects. And although airports periodically embark on major initiatives or all-encompassing renovations, they more often implement smaller, incremental projects over time, based on changing needs, growth and available funding. This often results in projects being executed by different design firms. Interior Design Standards not only augment the experience of selected firms and set baseline quality levels for materials and detailing; they also facilitate a consistent approach and help deliver more cohesive results.

Interior Design Standards typically include a summary of existing facilities and overall airport goals; general guidance for where and how certain materials and finishes should or can be used; a list of materials that are unacceptable in certain applications (unprotected gypsum

board below a certain height in public areas, for instance); basic detailing considerations, such as maximum tile joint widths and specification suggestions to minimize chipping and noise; and review procedures for both airport and tenant projects. The document also typically includes an appendix documenting specific materials, elements and colors utilized in the facility. This helps future designers maintain their use unless there is a compelling reason for change. Another optional, but very helpful, component is a color palette reference that indicates overall color ranges and proportions to be used in various elements and areas. Interior Design Standards can also contain conceptual images of specific terminal areas for future reference. Such images do not represent refined designs to be implemented verbatim; they reflect an airport’s conceptual goals for its interior environment. Results-oriented professionals view Interior Design Standards as a starting point for creative inspiration rather than a static, proscriptive document.

Phoenix Sky Harbor International Airport is currently developing Interior Design Standards for Terminal 4 and related concourses. With several significant improvement projects potentially looming in the future, airport officials felt formalized standards would help.

Lori Buchanan, architect for the city of Phoenix Aviation Department, describes their value: “We are constantly updating and upgrading our business processes and facilities. Terminal Design Standards provide us with a clear and cohesive framework for aesthetics, quality and organization to guide our future improvements. Through the standards, we are able to provide a roadmap and reference guide to our interior design professionals and can ensure an overall cohesive, coordinated design result that is compatible with the aesthetic intent of the terminal.”

When reflecting upon upcoming projects and needs at *your* airport, remember: What’s on the inside matters! Interior Design Standards prepared by a firm that specializes in airport interiors can help establish and maintain an atmosphere that enhances the passenger experience, improves the appearance of the interior environment and controls costs. ✈️

* Just checking; that’s really just a favorite sandwich. :)

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“Three folks from Host walked into my ink.sack on Melrose, and a year-and-a-half later we’re serving gourmet sandwiches at one of the world’s biggest airports.”
– Chef Michael Voltaggio, LAX

What was the process like for ink.sack at LAX?

MV Host knew I wouldn’t compromise on quality at LAX, so they source our airport ingredients exactly the same as I do on Melrose, right down to the purveyor.

They also understood that ink.sack was not just about food, but a special culture as well. From day one, Host has treated our LAX staff the same way I treat mine — not just as employees, but as associates.

How would you rate the whole airport experience?

MV A 10 out of 10. It was very collaborative. Host came in open-minded, with great ideas.

We’re reaching waves of tourists at LAX with my gourmet sandwich concept – a whole group we might never have met just being streetside.

I say, “Let’s build some more of these.”



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