

Airport Improvement™



Colorado Springs Airport Reopens Terminal One Day After Three-Alarm Fire



Greenville-Spartanburg Int'l Switches to In-House Fixed Base Operator

SEE US AT ACI-NA & SWIFT ANNUAL CONFERENCES



Fort Lauderdale-Hollywood Int'l Partners With Southwest to Renovate Terminal & Expand Capacity

AIRPORT STORIES INSIDE: BNA | CHS | COS | CVG | EIS | FIN | FLL | GSP | HNL | MHV | SAN | SBP | SEA | YOO | YVR | YYZ



Nashville Int'l Upgrades Fuel Farm to Address Recent Growth



San Diego Int'l Adds Covered Parking Plaza

#1

RUBBER AND PAINT REMOVAL MACHINE IN THE WORLD.

For 25 years we have been leading the world in runway rubber removal! 82% of North American airports that own a water blaster own a Hog, and we are the only water blasting manufacturer with repeat airport sales!



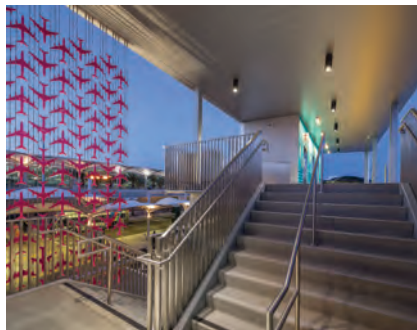
**STRIPE
HOG
SH8000**



www.HogTechnologies.com



8 Fort Lauderdale-Hollywood Int'l Partners with Southwest to Renovate Terminal



20 San Diego Int'l Adds Covered Parking Plaza



26 Greenville-Spartanburg Int'l Switches to In-House Fixed Base Operator



34 Valley Int'l Fire & Rescue Station Improves Response, Training



42 Colorado Springs Airport Reopens Terminal One Day After Three-Alarm Fire



38 Honolulu Int'l Adds Free, Unlimited Wi-Fi for Passengers



56 Edmonton Int'l Adds Designer Outlet Mall



62 Nashville Int'l Upgrades Fuel Farm to Address Recent Growth



48 Toronto Int'l Undertakes Terminal Enhancement Program to Prepare for Passenger Growth



Our idea of all-inclusive
doesn't require a wristband.



POWER
MODULES



MODULAR
COUNTERS



WASTE AND
RECYCLING



TANDEM SEATING



LOUNGE SEATING

Take a permanent vacation from multi-sourcing and enjoy the ease of Arconas. From seating, to power solutions, waste and recycling, and modular counters, Arconas is your single source for quality, human-focused airport furniture solutions. With installations in over 350 airports worldwide, we know how to raise the value of public spaces.

VISIT ARCONAS.COM TO DISCOVER MORE

ARCONAS



Enhancing the Passenger Experience through Airport Lounges that Create a Sense of Place

By Nancy Knipp, *Senior Vice President at Airport Lounge Development*

Airport Lounge Development's Club enhancements bring a sense of place and give back to the communities where they are located

By now, the value of the shared-use lounge has been well established. Airports across the U.S. have either added a shared-use lounge to their terminal experience or are in the process of deciding who will operate their shared-use lounge. This is demonstrated by Airport Lounge Development's unprecedented Club network growth of 80% in the past three years. The growth of airport shared-use lounges has been welcomed by the ever increasing global network of 'lounge savvy' travelers. Priority Pass, the world's largest lounge membership program is a significant contributor to this growth. Airport Lounge Development (ALD) partner airports have benefited from our strong guest volume growth and guaranteed access by Priority Pass members.

Now that your airport either has a shared-use lounge or you are looking to add one, how do you further enhance the traveler experience? Experiential travel demands are on the rise and, as a result, airports are implementing more entertainment, technology, food and beverage, and health options in order to enhance the experience and create a 'sense of place'. To support the importance of





partnership with Sodexo will provide guests with the opportunity to enjoy a taste of the city and region with feature menus designed by chefs with ties to the local community.

An example is our Pittsburgh International Airport Club where local Chef Kate Romane delivers hand-selected dishes including a sandwich of prosciutto cotto, caraway onion, arugula, smoked gouda and rosemary honey mustard as well as a signature salad of radicchio, spinach, bibb, pancetta, sheep's feta and seasonal vinaigrette. Hot dishes include penne pepato, sausage and peppers, and meatballs with red sauce. Visitors to our Clubs will begin to experience a taste of local flavors throughout our lounge network as we implement our new food program in the coming months.

The Club beverage program is becoming more than a complimentary offering of premium spirits, wine, and beer – it is an opportunity for our guests to experience artfully crafted cocktails and local beers. We are excited to be the exclusive lounge

partner with Kathy Casey, a celebrated chef mixologist and pioneer in the bar-chef movement. She is touted as the original Bar Chef and was named one of the top 10 most



KATHY CASEY

influential bar people of the past 25 years by Cheers Magazine. Our Clubs will be featuring specialty cocktails, hand-crafted with fresh house made mixers and premium spirits. Guests can refresh with regional signature margaritas such as the Cali Orange Margarita, Blood Orange Margarita, Desert Pear Margarita or the Atlanta Peach Margarita. If these unique, locally inspired drinks are not what our guests are looking for, we also offer additional specialty cocktails like the Loaded Bloody Mary with house made mix peppadew pepper & lemon or a Summer or Winter Mimosa with blackberry essence or cranberry.

Guests looking for a non-alcoholic option will be drawn to The Club's new 'Hydration Station'. The distinctive infusion jars will intrigue a guest's curiosity while satisfying their sophisticated palates with infused waters such as lemon pineapple cayenne,



responding to experiential travel demands, ALD is moving beyond simply providing a place for travelers to relax, be productive or grab something to eat between flights.

A recent Amadeus survey showed that by the year 2025, 56% of airport visitors will demand the further personalization of airports and the creation of more culturally sensitive and authentic experiences tied to the location and region. Our new global partnership with the world's leading lounge management company, Sodexo, helps us address that demand through an enhanced and locally inspired culinary experience as well a variety of contributions to the local communities where we operate our lounge network.

CONNECTING THE CLUB LOUNGES TO THE COMMUNITY WITH LOCAL TASTES

The airport is the front door to its city and community and the first and last impression a traveler has of the city and region. Your shared-use lounge should be a key element in 'place branding' or creating a 'sense of place' that connects the traveler to the city and the community. Travelers develop a sense of place through areas of experience that appeal to their senses: taste, sight, smell, touch and hearing.

Guests of The Club network of lounges will experience a sense of place through taste when they enjoy our enhanced complimentary food offering. Our new

strawberry basil or lemon watermelon. The Club's enhanced food and beverage offerings will delight weary travelers with features such as our 'Surprise & Delight' treats and unique 'Action Stations' where the experience will come to life with offerings prepared throughout the day at a chef's table. For a special treat, guests can visit The Club's 'Candy Wall'. Not your normal pretzel mix, The Club Candy Wall features a variety of savory and sweet treats including M&M's, Gummy Bears, Wasabi Peas and cookies.

SUPPORTING THE COMMUNITY AND ENVIRONMENT WITH THE CLUB'S GIVE BACK PROGRAM

We believe that connecting The Club lounge experience to the community goes well beyond simply adding a few locally inspired menu options.

To position our lounge network as an integral component in an airport's desire to connect their travelers to the unique lifestyle and culture of their city and region, ALD is not only enhancing our guests' culinary experience, but also actively engaged in a 'give back' program that supports local and global charitable organizations.

For example, the Club coffee and tea program contributes 5-10 cents per pound purchased to the Sodexo Foundation, a non-profit organization helping some of the 36 million people at risk of hunger in the United States. Our 'Pinot with a Purpose - Chardonnay for a Cause' wine program benefits organizations that range from educating women on the risks and symptoms of ovarian cancer, providing meals to children in need, and supporting the UC Davis Department of Entomology for bee research. Our local Club staff also join in by actively participating in community charity events.

The Club lounges also give back to the environment. We have implemented a 100% plastic-less bar by removing all plastic drink stirrers, replacing them with natural bamboo and replacing all plastic drink straws with a compostable product.

CREATING A SENSE OF PLACE THROUGH SIGHT

Our Club lounges are designed with the spirit of the local culture at their foundation.

We develop the design of our Club lounges guided by three essential components: what is always required in a premium lounge experience, what is expected, and what will bring added value to the experience.

The Club lounges allow travelers a glimpse into the city or region that they may not have been able to experience during their visit. Partnerships with local tourist organizations and cultural institutions such as museums and festivals, as well as showcasing a local photographer are all ways that ALD invests in the markets in which we operate and create an interest in the unique offerings of the surrounding region.

A signature Club component that offers travelers a unique glimpse into the city and region is our local photographer art program. Our local photographer art includes talented artists such as the Boston Celtics photographer Steve Lipofsky, whose photos decorate The Club at Boston Logan International Airport and W.M. Dunn, a local state judge whose photos hang on the walls at The Club BWI.

ENHANCED CLUB LOUNGE EXPERIENCE FROM FOOD & BEVERAGE TO DISHES AND UNIFORMS

Not only are we enhancing the food and beverage experience with new offerings and our Give-Back program, we are also upgrading everything from the buffet dishes to the staff uniforms. ALD is committed to bringing a true hospitality experience to every guest and the staff uniforms have been upgraded to reflect this focus.

As the demand for a shared-use lounge experience increases, ALD is positioned to guarantee guest volumes that ensure a successful partnership and offer enhancements to The Club guest experience, showcasing the local essence of your city and region and becoming part of your community with our 'Give-Back' program.

Please contact us if you are looking for a way to capture the growing lounge savvy traveler audience, connecting these travelers to your airport experience and connecting your airport to the lifestyle and culture of your city. ●





 **AIRPORT LOUNGE DEVELOPMENT** Presents  **THE CLUB**

RELAX • REFRESH • REPLENISH



Graham Richards • Director - Strategic Network Development
972-535-0285 • graham.richards@airportloungedev.com

ATLANTA • BALTIMORE / WASHINGTON • BOSTON • CHARLESTON* • CINCINNATI • DALLAS / FORT WORTH • JACKSONVILLE*
LAS VEGAS • LONDON • ORLANDO • PHOENIX • PITTSBURGH • SAN JOSE • SEATTLE

* ARRIVING 2019

Publisher
Paul H. Bowers
 paulbowers@airportimprovement.com
 262.510.7832

Editorial Consultant
Rebecca Douglas
 rebeccadouglas@airportimprovement.com
 815.621.4525

Social Media Director
Kristin Shaw
 kristinshaw@airportimprovement.com

Creative & Production Director
Becker 505, LLC - Chad Becker
 chad@becker505.com

Circulation Director
Lisa Monday
 lisamunday@airportimprovement.com

Webmaster
Matt Tews
 matttews@airportimprovement.com

Contributing Writers
Jennifer Bradley, Mindy Hamlin, Nicole Nelson, Paul Nolan, Robert Nordstrom, Jodi Richards, Mike Schwanz, Kristin Vanderhey Shaw, Thomas J. Smith, Victoria Soukup, Laura Wavra, Ken Wysocky

Advertising
Paul H. Bowers
 paulbowers@airportimprovement.com
 262.510.7832

Adrienne Gibson
 adriennegibson@airportimprovement.com
 262.844.4368

Vicki Jensen
 vickijensen@airportimprovement.com
 414-331-9768

Editorial Advisory Board
David Byers, Ph.D.
 Quadrex Aviation, LLC

Paul Cudmore
 Eagle Integrated Solutions

William Fife
 Peer Review Consultant

Glenn S. Januska
 Casper/Natrona County Int'l Airport

Chris Norton
 VTC

Eric Peterson
 Alliance

Donna Speidel
 Sightline Airport Marking Consultants



68 Charleston Int'l Sweetens Retail Lineup with Kiosk Program



76 Sea-Tac Partners with AMAC to Support Diversity Measures



72 Flagler Executive Relocates & Extends Primary Runway



80 What Makes a Great Website?

columns

Publisher's Column
Info Coming Soon

7 **Industry Insider**
Chris Norton of VTC correlates traffic growth with infrastructure projects and industry culture.

86

advertiserindex

ACC	13	Ennis-Flint	44	Provenzano Resources	70
ACI-NA	23	EZ-Liner	74	Quantum Secure	13
ADB Safegate	75	Fulfab	40	RS&H	78
Aerosweep	29	G&S	10	RezPort	24
Amadeus	17	Gee	60	Ricondo	16
Airport Lounge Development	5	Gresham, Smith & Partners	10	Rosenbauer	35
Airport Seating Alliance	51	Hi-Lite	67	Ross & Baruzzini	83
Airports Going Green	84	HNTB	14	SEW	88
Alliance	79	Hog Technologies	2	Signature	19
Arconas	4	International Display Systems	22	SSI	36
Argus Consulting	63	ITW GSE	33	Stantec	51
Asphalt Systems	65	Kimley-Horn	66	Synect	52
Baker	46	Larue	37	TranSystems	77
BASF	53	Lavi	21, 27	Trinity	32
Becker 505	85	LAZ	49	Tymetal	39
Boingo	41	Leonardo	45	Unisys	6
Burns Engineering	11	Manchester Airport Group	55	United Rotary	73
BYD	87	M-B Companies	47	Vaughn College	82
CHA	64	McCain Walls	43	Veoci	82
CTS Cement	31	Mead & Hunt	59	Vic Thompson Company	85
CyberLock	50	Metal Pless	58	Vidtronix	18
Cyclone	28	Neubert	29	VRH	54
Daktronics	15	Oshkosh	61	WFS/Total FBO	30
Delta Airport Consultants	57	Parsons	7	WSP	71
dormakaba	12	Pond & Company	64	Zoetig	25
EJ	81	ProDIGIQ	69		



AIRPORT IMPROVEMENT published bi-monthly by Chapel Road Communications LLC, 3780 Chapel Road, Brookfield, WI 53045. All statements, including product claims, are those of the person or organization making the statement or claim. The publisher does not adopt any such statement or claim as its own and any such statement or claim does not necessarily reflect the opinion of the publisher. Printed in the USA. POSTMASTER: Send address changes to AIRPORT IMPROVEMENT to 3780 Chapel Road, Brookfield, WI 53045. All rights reserved. Permission to reprint or quote excerpts granted only upon written request.



Securing the Robertsons' Amazing Vacation.

Airports around the world rely on Unisys to process luggage securely - over a million bags a month. Which means families everywhere, just like the Robertsons, will have swimsuits to wear on vacation. Find out more at [Unisys.com/Travel](https://www.unisys.com/Travel).

UNISYS | Securing Your
Tomorrow®

Consulting | Services | Technology

Info Coming Soon

This was the message I saw on an airport website recently. Could you imagine if that were posted on the benefits page of your insurance company's website, or under the "About" tab on AAAE's site? This wouldn't be acceptable, would it?

Or what if you need to talk to someone about a job, noise complaint or hangar space, and the airport's website has no contact information listed? Sure doesn't seem like a good business practice.

Lastly, you're looking at the news and events section of an airport website, and the last posting was from January 2014. Hmm, is it possible that *nothing* has happened there in more than four years? For their sake, I hope not!

Unfortunately, there are many airport websites that simply don't get the job done. And a few are downright embarrassing to the airport they're supposed to serve. A "New Website under Construction" message that's been posted for longer than it takes to complete an EIS is not acceptable. An up-to-date, functional website is perhaps the most important tool you can offer your community and passengers. It's also not a bad way to let politicians know the good things you're doing to serve the community, which is important when funding discussions are often just around the corner.

It's not our nature to criticize airports, but we also don't turn a blind eye when something is blatantly wrong. We prefer to share examples about airports that are doing things right. Not surprisingly, there are some really good airport websites out there. We highlight three of them in this issue. Good website design, information and maintenance are not limited to airports with big budgets and large staffs. Rather, it's about knowing your market and goals, good planning and consistent upkeep.

Please take a look at your own airport's website—and not just the homepage. Try clicking on each tab and see what you find. Can passengers and airport tenants find the information they need?

Is there a listing of airport staff that helps them connect with the right people?

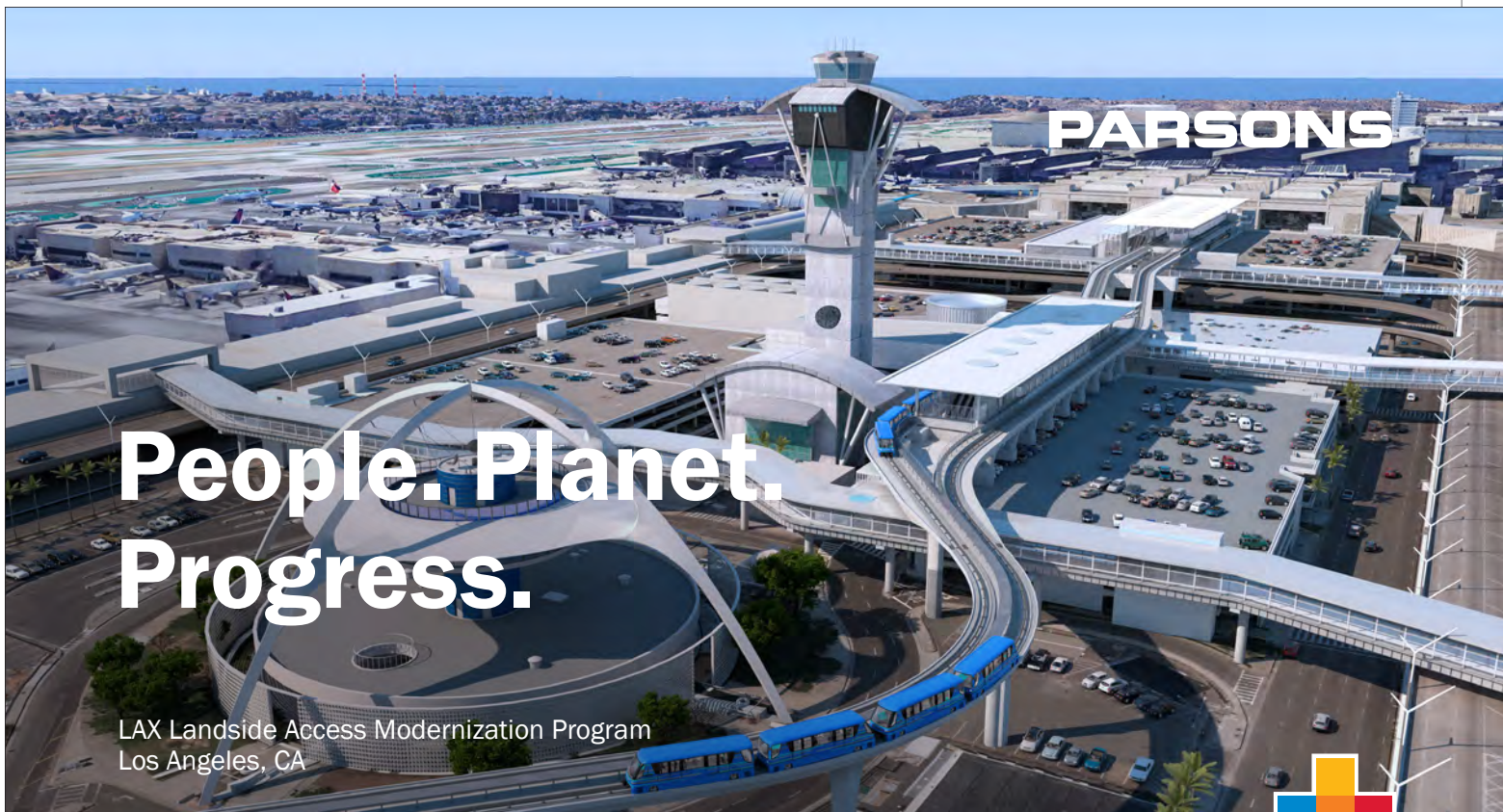
When it comes to construction, an airport's to-do list is never finished. The same should be true for its website.

Cheers,

Paul



PAUL BOWERS, PUBLISHER



LAX Landside Access Modernization Program
Los Angeles, CA

parsons.com

Parsons PLUS envision more



Fort Lauderdale-Hollywood Int'l Partners With Southwest to Renovate Terminal & Expand Capacity

BY JODI RICHARDS



FACTS & FIGURES

Project: Terminal Renovation/Concourse Construction

Location: Fort Lauderdale-Hollywood (FL) Int'l

Airport Owner/Operator: Broward County Aviation Department

Project Partner: Southwest Airlines

Cost: \$333 million

Funding: Airport revenue bonds

Key Components: 5 swing gates; new International Arrivals Facility; 12-lane consolidated security checkpoint; 80,000-sq.-ft. airside concessions court; new & renovated restrooms

Timeline: Initial planning for Concourse A began in 2005, but was tabled until 2013; construction started March 2016; facility opened July 2017; B/C connector opened Jan. 2018

Construction Manager at Risk: Hunt Moss Joint Venture

Program Manager: Parsons

Prime Consultant & Concourse A Architect: Corgan

Terminal 1 Renovation Architect, Signage & Wayfinding Designer, Structural Engineer: Gresham, Smith & Partners

Retail Concessionaire: Hudson Group

Food & Beverage Concessionaire: HMSHost


Access Control: dormakaba

Inbound Baggage Handling Systems: G&S Airport Conveyor

Recheck Input System for FIS & Other Baggage Support Equipment: G&S Airport Conveyor

Seating: Arconas

Printers: VidTroniX

 Fort Lauderdale-Hollywood International Airport (FLL) recently completed a \$333 million renovation of Terminal 1 to improve the experience for travelers and offer more operational capacity and flexibility. The program, which includes the addition of a new concourse and five swing gates, was part of a larger \$3.2 billion capital program that is modernizing nearly every inch of all four terminals at the southern Florida airport.



MARK GALE

In 2017, FLL served 32.5 million passengers, an 11% increase over the previous year. As owner/operator of the airport, Broward County Aviation Department worked to meet the growing traffic numbers and found success partnering with Southwest Airlines to deliver these most recent projects. Adding swing gates

to accommodate more international and domestic service was of great interest to Southwest, notes Mark Gale, chief executive officer and director of aviation for the county department.

"The facilities that were in place had served us well for an airport doing 7 million to 9 million enplanements," Gale explains. "But when we started to get up around 16 million-plus enplanements, the facilities were just insufficient to handle that type of traffic."

Constructed in 2002, Terminal 1 had numerous deficits because of its pre-9/11 design—an issue shared by many U.S. airports. Many concessions were located pre-security, so amenities were limited once travelers were through the TSA checkpoint. In addition, all of its facilities, from restrooms to security checkpoints to holdrooms, were overloaded due to increasing passenger volume. The recently completed renovation/addition program not only modernized all of Terminal 1, but also allocated space

Gambrill. “You couldn’t do each project separately,” he says, noting that it also made sense to partner with Southwest.

In late 2013, the airport board approved an agreement to have Southwest lead the project. The airline was responsible for administering and overseeing the modernization of Terminal 1 and the addition of Concourse A. “Working with the airlines, we’ve realized the benefits on both sides,” Gambrill says.

Although the agreement calls for a completion date of November 2019, Southwest and its project partners managed to close out the program in the fall 2018.



BEN GOEBEL

Corgan and Gresham, Smith and Partners worked together to deliver the project as quickly as possible, explains Ben

Goebel, principal and senior architect at GS&P. Corgan served as prime for the entire project and led the design of Concourse A; GS&P was a subconsultant and lead architect for Terminal 1.

Under the agreement with Southwest, everything from design through construction was approved by the airport and coordinated with operations, maintenance, concessions and other airline partners. “It’s not just allowing the airlines to do it; it’s a back and forth in terms of developing the program and coordinating it,” Gambrill states. “We’re very involved throughout the process, from procuring it and building it.”

Having Southwest take the lead on the capital project leveraged financial and logistic efficiencies, he explains. “No one knows their flight schedules better than they do.”

“We had a real need,” explains Randy Gillespie, director of airport affairs for Southwest. “It wasn’t just a need for a terminal, but a need for a terminal by a *date certain*. We

absolutely had to finish building the facility where tickets were already being sold.”

Adding Capacity

Fully \$200 million of the overall \$333 million renovation program was invested in building Concourse A, a 330,000-square-foot, dual-level, greenfield construction with five swing gates. The new gates allow FLL to maximize utilization by handling domestic and international flights with the same facilities. In addition to Southwest, other airlines also utilize international capabilities on the new Concourse A.

Gambrill notes that the first step in working with Southwest was developing a project definition manual that identified design phases for the scope of work and coordinated all aspects with various stakeholders. Key constituents included the program management team, construction manager at risk team, U.S. Customs and Border Protection and TSA.

A new Federal Inspection Station—something Gale says was “desperately needed” for FLL to continue to grow internationally—was constructed in Concourse A. The new facility is designed to process 800 passengers per hour.



BOB EMERY

Corgan worked closely with CBP to design the new inspection station to meet current and future needs, says Bob Emery, associate principal at Corgan. Rather

than the traditional two-step process for immigration, FLL’s new facility uses a newer one-step process. Immigration and Customs processing occur at the same point by the same officers after passengers have used an automated passport control counter or mobile passport control and claimed their baggage. “It’s much more efficient for CBP,” he remarks.



MARC GAMBRILL

to where it was needed, explains Chief Development Officer Marc Gambrill.

Planning for the Concourse A addition originally began around

2005, but was soon put on hold. In 2011, modernizing terminals 1, 2 and 3 took center stage, and airport leadership met with Southwest Airlines to discuss the carrier’s desire to grow its domestic and international operations and how FLL could fit into that strategic plan. Aviation department officials subsequently revisited the plan to add Concourse A and merged it with the Terminal 1 modernization in 2013. Because of the airport layout, the Concourse A and Terminal 1 projects were interdependent, explains

Designers appointed holdroom areas with Arconas seating, white ceilings and more natural light.

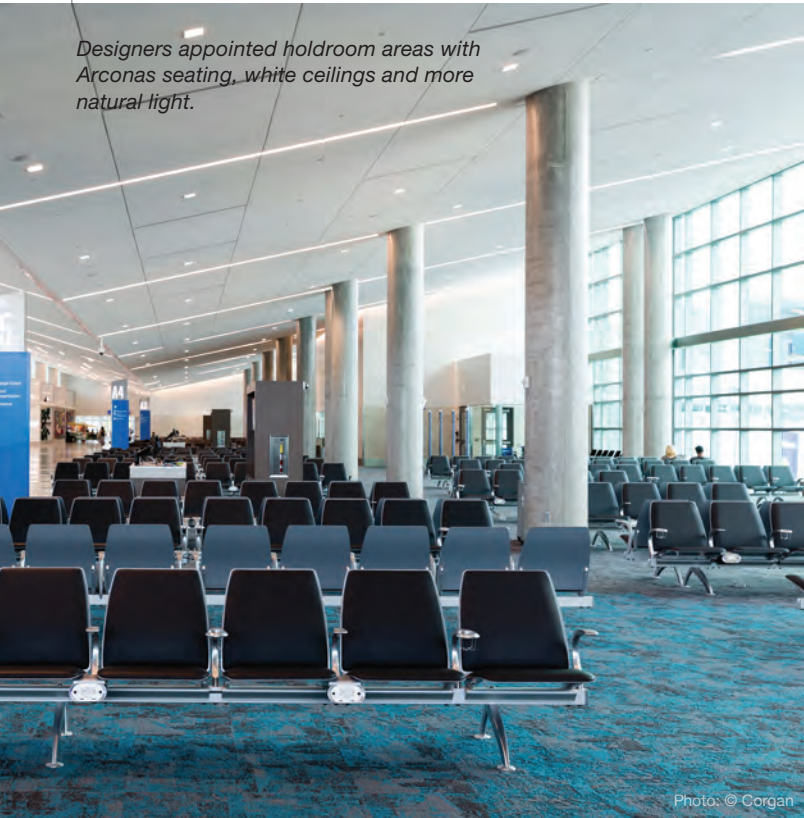


Photo: © Corgan

Terminal 1 Highlights

The design team employed strategic methods to make Terminal 1 feel larger. Changing light fixtures and removing display monitors and other heavy elements that made the space feel condensed helped open up the holdrooms visually, Goebel says.



BRAD SUCHER

“Even the simple thing of replacing the aged and dull T1 holdroom ceilings with a clean, white ceiling made the space feel taller,” adds Brad Sucher, an architect with GS&P.

Designers also added more natural lighting and used consistent finish materials to modernize the look and feel of Terminal 1. The color palette includes beach tones and coastal South Florida colors. “The space is more open, lighter, airy and more relaxing,” Goebel notes. New terrazzo flooring and a vibrant public art program add to the modern design of the facility.

A 40-foot-tall glass curtainwall (see photo on cover) provides an expansive view from the terminal entrance to the airfield. Providing a clear view from ticketing through concessions out to the airfield leads to intuitive wayfinding, and also helps travelers feel more comfortable and relaxed, says Sucher.

See us at ACI-NA | Booth #1525

Signage and wayfinding were updated and standardized—a project that will eventually cover the entire airport campus, notes David Park, senior environmental graphics designer with GS&P.



DAVID PARK

“It’s a very clean, uniform, updated look,” he comments. “This gives the customer a lot more confidence in wayfinding.”

Designers also used subtle architectural elements such as flooring, ceiling elements and interior lighting to help pull travelers’ eyes and guide them through the terminal. Using consistent finish materials for specific areas provides a similar influence, Goebel adds. For instance, vertical circulation structures all incorporate the same materials, and all restrooms have a unified color format. “When you walk down a corridor and see a sea blue wall, you intuitively know that’s a restroom,” he explains.

A 3,120-square-foot interactive play area and three service animal relief areas were also incorporated into the project.

Streamlining Security

Central to the modernization of Terminal 1 is the consolidation of two security checkpoints into one. Previously, each checkpoint had five lanes; the new consolidated checkpoint has a total of 12. It also has a secure corridor behind the ticket counters that connects concourses A, B and C.

The previous Concourse B security checkpoint was a serious problem, notes Gillespie. Its pre-9/11 design was inefficient at meeting post-9/11 security requirements and serving growing traffic numbers. Queues of waiting passengers often extended outside the terminal.

The new centralized checkpoint improves the process for passengers and TSA alike, Gambrell notes. The updated design allows the agency to make the most efficient use of personnel and equipment.

Design and process improvements have transformed the Terminal 1 checkpoint from what Gillespie considered to be one of the worst in the country to one of the best. “You can check more passengers in, you can get them on the other side of the security



Considering Burns

Just Ask Our Clients!

“Burns has been a long-time partner with us on numerous programs. Their aviation leadership team consistently provides exceptional technical solutions.”

– Katherine Goudreau, Managing Director, Corporate Real Estate
American Airlines

Burns is one of the nation’s most respected providers of specialized engineering services, providing highly-technical, sought-after expertise on complex transportation, aviation, and critical infrastructure projects.

Burns

burns-group.com

Inspire. Create. Deliver.

Canopy Project Kicks off Improvements

Before Fort Lauderdale-Hollywood International (FLL) began heavy-duty renovations in Terminal 1, it replaced the exterior canopies that shield passengers from wind, rain and sun as they move between the airport's four terminals.

Construction on the \$6.85 million project began in May 2014 and was substantially complete in September 2015.

The new canopies were a good launching point that created positive momentum for the long schedule of improvements still to come, explains Wilson P. Rayfield Jr., executive vice president with project design consultant Gresham, Smith and Partners.



WILSON RAYFIELD JR.

"It signified to passengers that the airport was being modernized, and was a quick win," he explains. "To have something that is noticeable at the front door come off successfully, quickly and early—I think there's a lot of value to that."

During the project, crews removed the existing canopy supports between terminals 1 and 2, terminals 2 and 3, and terminals 3 and 4; built new steel structures in the same areas; and constructed a 150-foot extension on the Terminal 1 roof.

To provide a robust system that would withstand the harsh conditions of South Florida weather, engineers designed a 12-foot tall steel structure that spans a total of 23 feet through two opposing 10-foot cantilevers. The steel structure is wrapped with 8-foot precast concrete panels to protect it in the high traffic area, and is white to provide a light and airy feel, with indirect illumination from the columns. Locating electric lighting at a relatively low elevation provides an even wash of light and makes it easy for maintenance crews to maintain, notes Rayfield.

Because the new canopy system is a heavier structure than what was previously in place, FLL had to reinforce the roadway in some places to support the new concrete columns. ✈️



Installation at Phoenix-Mesa Gateway (AZA)

One way to simplify the travel experience.

NEW Exit Lane Corridor with Advanced Smart Technology

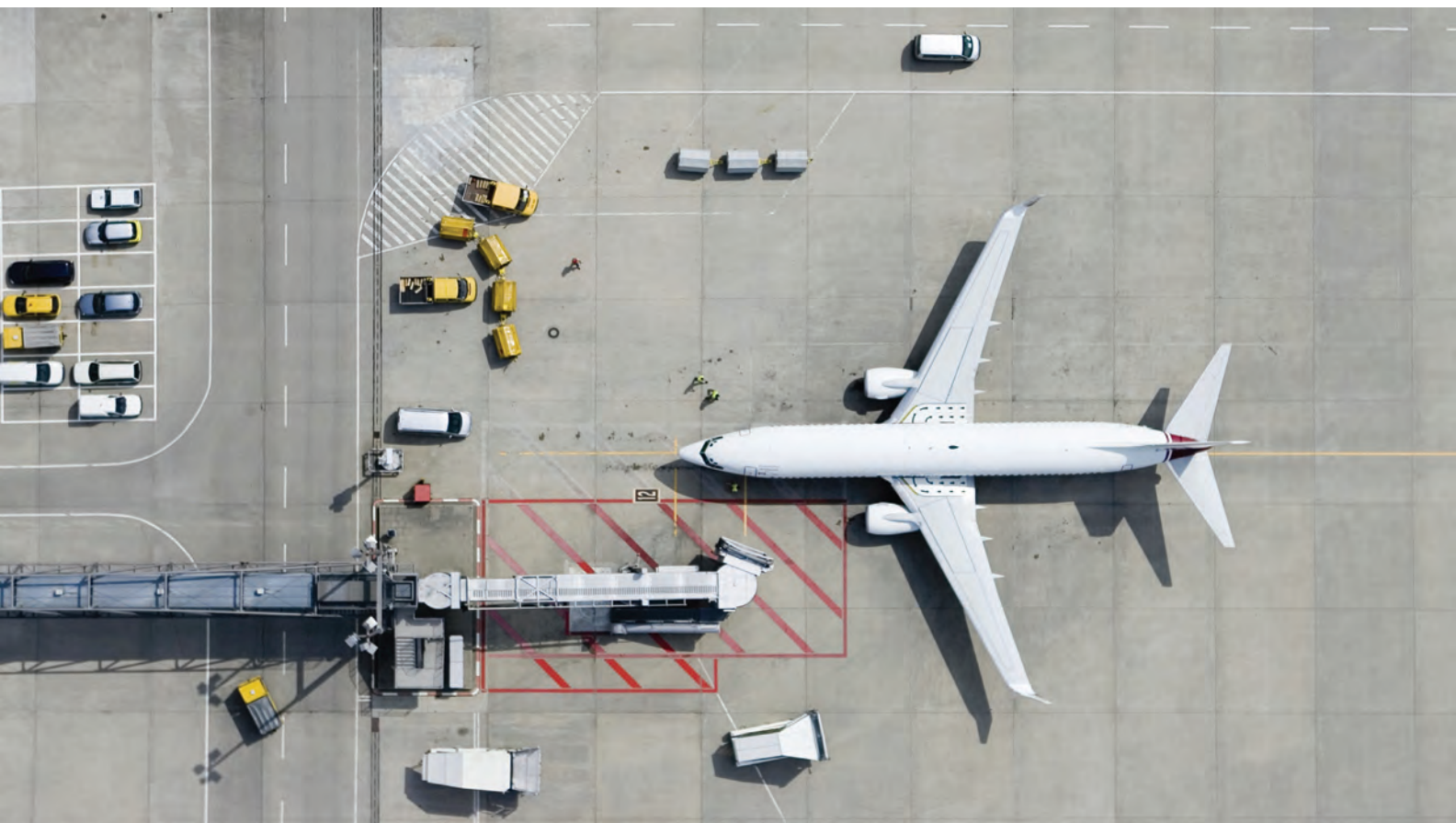
- 3D imaging tracks activity within the one-way corridor.
- Highly sensitive stereo sensors detect breach attempts, suspect persons and objects.
- Open ceiling for easy integration of airport sprinkler and smoke detection systems.
- Stainless steel construction.
- Configurable security zones to meet airport security requirements.

See us at
ACI-NA Show
Nashville, TN, Sept. 30 - Oct. 2, Booth 703

Visit dormakaba.us

dormakaba

Global Leader in Trusted Identities Acquires Quantum Secure, Inc.



Acquisition strengthens existing identity management solution and supports continued innovation to enhance airport security

In March of 2015, HID Global, a worldwide leader in secure identity solutions, announced the acquisition of Quantum Secure, the leading provider of physical identity and access management software for streamlining and simplifying the way airports manage secure identities, compliance and operational analytics. This move enhances the delivery of end-to-end identity management solutions for airport clients who have been working with Quantum Secure for the past 10 years.





Founded in San Jose, CA in 2004, Quantum Secure's solutions have been deployed in more than 30 airports across four countries, in addition to more than 130 commercial and government organizations. The acquisition by HID Global further cements the company's commitment to its aviation customers. According to Julian Lovelock, segment vice president for HID SAFE, "Airports are making a significant commitment to this solution. They need that commitment to be reciprocal, and as HID Global, we can do that."



JULIAN LOVELOCK

HID Global, an ASSA ABLOY Group brand, is a worldwide leader in trusted identity solutions, products and services used by millions of customers around the world. HID Global's portfolio of products include: access control for physical and virtual resources, including

strong authentication and credential management; card printing and personalization; visitor management systems; highly secure government and citizen identification; and radio frequency identification (RFID) technologies used in various industry applications from logistics to animal identification.

"The acquisition is not going to result in some spectacular pivot of the product," Lovelock says of SAFE™ for Aviation, now known as HID SAFE™ for Aviation. "In fact, the benefit it brings to the market is a solid commitment from HID Global to take a solution that's been proven across our airport partners and scale it up and support it on an open-ended basis with everything HID Global stands for including reliability, scalability, performance and security." In addition to possessing a global presence, exceptional resources, and the willingness to stand by commitments, HID Global's comprehensive security solutions can be aligned to provide the greatest benefit to airport partners.

A Revolutionary Solution Backed by Industry Experts

HID SAFE for Aviation is an enterprise software suite that offers a single, fully interoperable and integrated physical security policy platform to manage secure identities, compliance and operational analytics across multiple sites and systems. Andrew Kuchel, vice president of business development with HID Global describes HID SAFE for Aviation as an, "out-of-the-box answer to the challenges airports face with regard to managing workers and the insider threat that accompanies them."

With more than 30 airport deployments — including Category 3 up to Category X facilities — and a carefully planned roadmap for HID SAFE for Aviation's future growth and continued evolution, customers can be confident in the depth of experience and commitment to excellence that differentiates the HID SAFE solution and team. "The maturity of the product coincides well with the HID Global full

CROSS AIRPORT DEPARTMENTS
Role-based Users

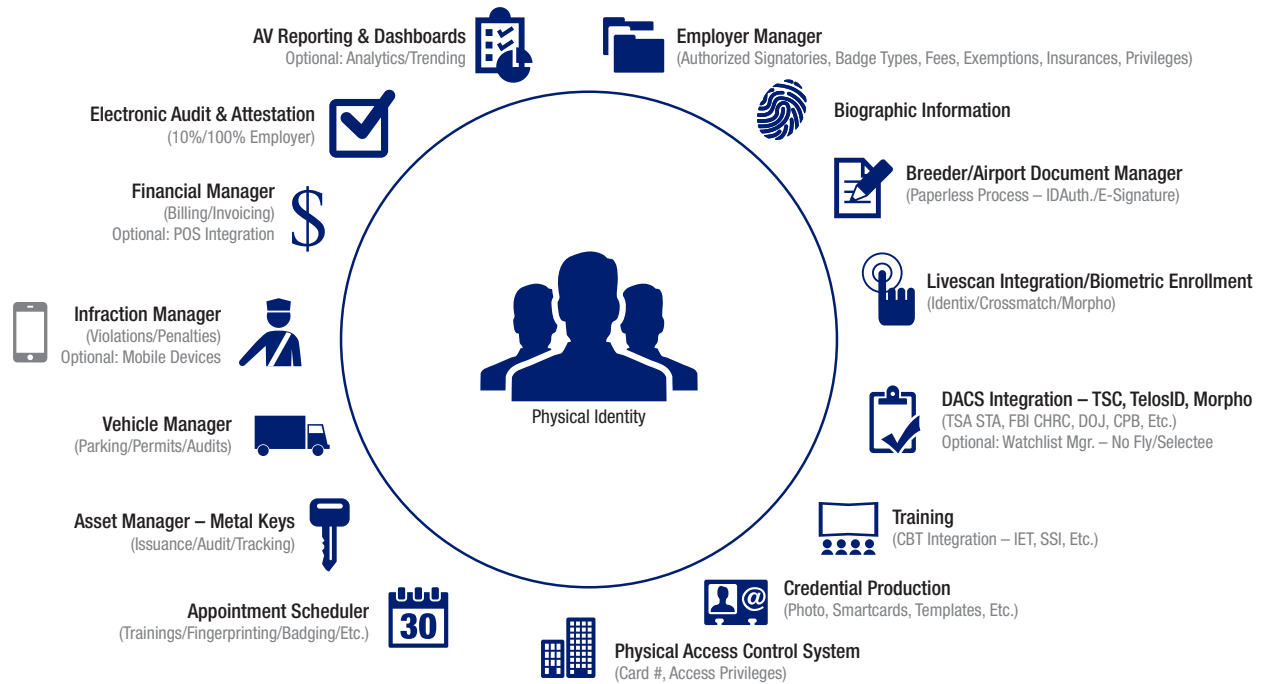

Authorized Signatories


Aviation Security


SOC/Comms


Finance


Ticketing/Violations



Physical Identity & Access Management for Airports

integration, and we are now on-plan to provide a more robust product," Kuchel says.



ANDY KUCHEL

Scalability to operational processes and a tighter integration with the HID Global portfolio of products are among the benefits of the acquisition. HID SAFE becomes a stronger, more substantial offering when aspects of the HID Global portfolio can be integrated into the solution. For example, HID SAFE customers benefit from HID Global's cyber security expertise, given that the system includes a public internet portal for authorized signatories.

As a solution, HID SAFE does not stand alone, Lovelock notes. "It fits within a complex ecosystem of hardware and software — so having the HID Global brand behind it enables us to deliver a stronger solution for our customers." Because the solution can leverage HID Global's support infrastructure and methodologies, significant benefits are realized by HID SAFE customers.

"HID SAFE for Aviation is proven to have what it takes to solve problems at airports," says Kuchel. "As a complete solution provider, HID Global can provide much more of what an airport may need and make sure the technologies all play together in a much more integrated way — and this aligns perfectly with HID Global's strategy."

An Identity Management Solution Designed for Optimal Functionality

The HID SAFE software solution has evolved and matured over the years into a comprehensive identity management system. Developers of HID SAFE for Aviation listen to airport customers and continue to work closely with airports to develop and deploy

the comprehensive, modern solution. "As the innovator of this concept, we've learned what the airports need and applied it through our suite of applications," Kuchel explains.

Airports have the challenge of ensuring the security and safety of their facilities — a challenge that extends to managing identities and credentials of people working directly for the airport as well as tenant employees. For many airports, identity management is a manual, paper-based process that can be inefficient and fraught with errors. "Airports that work in a manual environment have to work with disparate systems and processes which places limitations on their ability to integrate and share important data," Kuchel notes. HID SAFE for Aviation is designed to address that challenge

With HID SAFE for Aviation, airports can integrate and share data with other operational departments, allowing for optimal functionality.

HID SAFE for Aviation transforms a badging office into a completely modern, paperless experience for customers, providing a dramatically improved customer service experience for tenants.



by being a central part of an airport's information technology ecosystem. With HID SAFE for Aviation, airports can integrate and share data with other operational departments, allowing for optimal functionality.

HID SAFE for Aviation provides the tools to streamline workflows, automate processes and integrate disparate systems. The comprehensive enterprise overlay creates a customer friendly environment that allows airport workers to get to work faster and also reduces risks associated with manual, error-prone systems and practices, therefore improving compliance and increasing efficiencies. HID SAFE establishes trusted identities within an airport and verifies that the individual is who they say they are, that they are authorized to go to the place they're trying to go and do the things they're trying to do.

In addition to security and credentialing individuals, there are other operational needs associated with managing the identities of workers at airports. Airports need a way to document that individuals have the security clearance and necessary

training to perform their duties in a secure environment — and ensure that the credentials are up to date. "There's a lot of data to monitor to make sure that a company and its employees are in good standing to be able to operate at an airport," Kuchel notes. "That's really hard to do as a human, but easy to do as a system."

The credentialing process for airport contractors and employees is rigorous, with a tremendous amount of regulations to which airports must comply. In addition, the process involves handling a lot of personally identifiable information, including social security numbers, background checks and biometrics. HID SAFE is a modern, efficient solution that manages all these aspects of identity management. Every identity is linked into a common framework that is precisely managed by the policy-based engine of the system — and sensitive information remains private and secure. Once an identity is credentialed through the process, HID SAFE is also able to effectively manage the various events that occur during the entire lifecycle of the employee or contractor.

The key to HID SAFE for Aviation is the ability for an airport-contracted company to interact with the airport online through a secure portal. "The system eliminates the paper, phone calls and emails and puts the onboarding process into motion," Kuchel says. "HID SAFE for Aviation transforms a badging office into a completely modern, paperless experience for customers, providing a dramatically improved customer service experience for tenants."

On Trend with Future Applications

As passenger security trends more toward the use of biometrics, Kuchel expects airport employee security will follow suit with biometrics becoming a central part of an airport's infrastructure. Kuchel foresees that the biometric passenger trend will quickly evolve to include airport workers as much as it does passengers. As biometric security expands to include airport workers and tenants, HID SAFE for Aviation is equipped to handle processing and tracking biometric information as part of the identity lifecycle.

As the trend grows for more and more software applications to move toward the cloud, HID Global is building a cloud platform that HID SAFE clients will be able to leverage in the future.

In order to stay abreast of upcoming trends in the aviation industry, as well as the challenges and opportunities facing airports, HID Global is an active participant in industry working groups through Airports Council International-North America, Airports Council International-World, American Association of Airport Executives, Airport Consultants Council and the Transportation Security Administration. "In the dynamic realm of aviation," Kuchel notes, "HID Global is well-positioned to help its airport partners respond to the ever-evolving security and safety regulations that impact identity management solutions."

ACC 40th annual Conference & Exposition

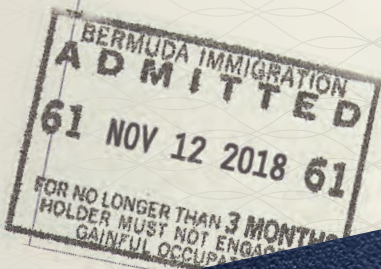
Passport to the Future

PEOPLE ▲ TECHNOLOGY ▲ RESILIENCY

BERMUDA

FAIRMONT SOUTHAMPTON HOTEL

NOVEMBER 12 – 14
2018



ACC >>> delivering excellence in airport development



#ACC40

For more information... www.ACOnline.org

checkpoint and they have access to far more concessions,” he explains.

Access to Amenities

Thanks to the new centralized checkpoint, travelers passing through Terminal 1 now have access to concourses A, B and C—and all their respective amenities. Gale considers this a real “game changer” because it creates more revenue opportunities for FLL and its tenants.

Previously, passengers flying out of concourses B or C were limited to the concessions there after passing through security screening. In the new Terminal 1 environment, passengers now have access to all the options throughout concourses A, B and C. “The consolidated checkpoint plays a very key role in that,” Gale says.

Also, from an airport operations perspective, airlines now have the

ability to use the facilities in the other concourses, allowing greater efficiency of gate resources.

With the addition of Concourse A, concessions square footage has doubled to approximately 56,000 square feet. The total number of retail locations increased from seven to 15; and on the food and beverage side, four new options bring the total to 18. “Like most airports, we strive to have a great mix of well-known, national brands, complemented with some local brands,” Gale notes.

New dining options from master concessionaire HMSHost include Jimmy Buffet Air Margaritaville Fort Lauderdale in the B/C connector; La Familia Tacos & Tequila in Concourse A; Landshark, Sergio’s and Torn Basil in Concourse B; and Shula Burger in Concourse C.

On the retail side, Hudson Group opened four stores within Concourse A in July 2017: Hudson, Tech on the Go, 5th & Sunset and CNN. In the B/C connector, travelers will find Hudson, 5th & Sunset, Sweet Indulgences, M•A•C, Rip Curl and Harley Davidson. Hudson also opened Intracoastal News in Concourse B and plans to open a Hudson, Desigual and Island of Bahama (beach/island-inspired apparel store) later this year.

“It transforms the guest experience,” Gale says of the new concessions offerings.

With greater concessions opportunities, revenue should grow, he reasons. In the first quarter of 2018 alone, passenger traffic in Terminal 1 increased about 16% compared to 2017, and food and beverage revenue was up about 20%. “We’re very encouraged by the numbers we’re seeing thus far,” Gale relates, “and we still have some locations that we can build out within the program as demand warrants.”

Working with all of FLL’s concessions partners (HMSHost and Hudson Group in terminals 1 and 2; Delaware North and Paradies Lagardere in terminals 3 and 4), Gale hopes to “take the overall concessions program to all new levels.”

“Square footage is finite and we want the highest and best yield out of our space,” he says. “But at the same time,



EXCELLENCE IN AIRPORT INFRASTRUCTURE



TOP LEFT: Los Angeles International Airport – United Terminals 7 and 8
TOP RIGHT: Fort Lauderdale International Airport – Runway 10R/28L
BOTTOM: Bermuda International Airport

HNTB

The HNTB Companies
Infrastructure Solutions
hntb.com

Laddie Irion
National Aviation Market Sector Leader
(813) 498-5125



we want to make sure we're providing exactly what our guests are looking for when they traverse through our facility."

Tailoring concessions and other amenities to the airport's unique passenger profile was critical, Goebel says. For example, cruise passengers who start or end their trip at FLL often have eight-or nine-hour dwell times, so it was important to incorporate comfortable seating, power stations and other conveniences. The elliptical-shaped seating area in Concourse A is 7,330 square feet, with 200 seats, electronic charging stations and free Wi-Fi.

Resourceful Solutions

Due to FLL's constrained footprint of only 1,400 acres, strategies to meet growing demand need to be creative. "We're creating space on top of space," Gambrell relates. "That's a very unique component of this project." The 80,000 square feet that was added to Terminal 1 was built on top of the existing structure, allowing for the addition of new concessions, a centralized checkpoint and connector facility. Moreover, the work was completed while 30,000 passengers traveled through Terminal 1 on a daily basis.

With such a complicated project, the construction manager at risk delivery methodology was particularly beneficial because

The seating area in Concourse A includes 200 seats, electronic charging stations and free Wi-Fi.

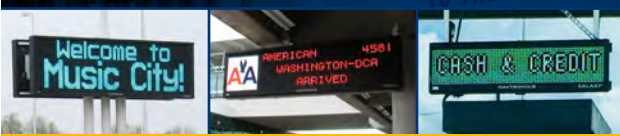


of the close collaboration between parties, Gambrell explains. "You're getting a contractor and designer on board; and as they're designing it, you're working with the contractor and designer to make sure that whatever they're designing is constructible, and then also working on the construction phasing."

INFINITE POSSIBILITIES

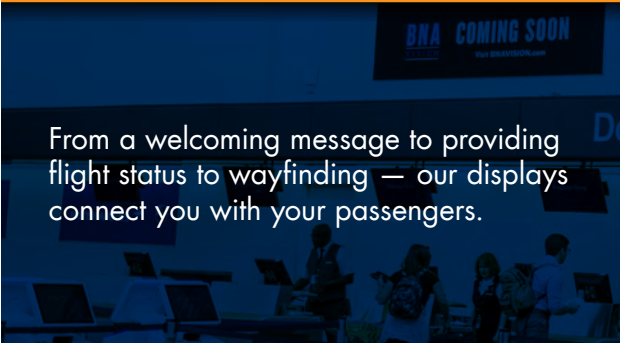


From departure to destination, our displays **guide, inform** and **entertain** travelers on their journey.



Daktronics.com/Airports

From a welcoming message to providing flight status to wayfinding — our displays connect you with your passengers.



DEPARTING TO	AIRLINE	FLIGHT	TIME	GATE	REMARK	DESTINATING TO	AIRLINE	FLIGHT	TIME	GATE	REMARK
Atlanta	Delta	458	1:00 PM	B8	On Time	Atlanta	Delta	468	1:20 PM	C5	
Atlanta	Southwest	3889	4:01 PM	B8		Atlanta	Southwest	3300	2:20 PM	B5	
Atlanta	Southwest	3321	1:20 PM	C18	Boarding	Atlanta	Southwest	2048	1:00 PM	C21	On Time
Atlanta	Southwest	3344	2:00 PM	C25	On Time	Atlanta	Southwest	338	3:50 PM	B7	2:01P
Atlanta	Southwest	1486	2:00 PM	C5	On Time	New York LGA	Delta	4614	1:00 PM	C12	
Atlanta	Southwest	4479	2:40 PM	C5		New York LGA	Southwest	3418	3:00 PM	C19	
Atlanta	Southwest	3334	4:10 PM	C5		New York LGA	Southwest	1005	4:30 PM	C19	Delayed
Atlanta	Southwest	3378	1:50 PM	C5		New York LGA	Southwest	537	10:40 AM	A7	Delayed
Atlanta	Southwest	4559	2:50 PM	C10	2:04 PM	Newark	Southwest	3434	3:50 PM	C7	On Time
Chicago-ORD	Delta	4589	4:00 PM	C12		Newark	Southwest	2117	2:11 PM	B12	
Chicago-ORD	Delta	4587	4:00 PM	C12		Newark	Frontier	1088	3:31 PM	C21	
Chicago-ORD	Delta	4585	4:00 PM	C12		Orlando	Southwest	368	10:40 AM	D11	Delayed
Chicago-ORD	Delta	4583	4:00 PM	C12		Philadelphia	Southwest	690	2:27 PM	C15	2:27 PM
Chicago-ORD	Delta	4581	4:00 PM	C12		Philadelphia	Southwest	1377	6:00 PM	B10	On Time
Chicago-ORD	Delta	4579	4:00 PM	C12		Phoenix	Southwest	1819	3:22 PM	C23	On Time
Chicago-ORD	Delta	4577	4:00 PM	C12		Phoenix	Southwest	1377	6:00 PM	B5	
Chicago-ORD	Delta	4575	4:00 PM	C12		Portland	Southwest	2782	4:40 PM	C5	On Time
Chicago-ORD	Delta	4573	4:00 PM	C12		Portland	Southwest	372	6:10 PM	C18	
Chicago-ORD	Delta	4571	4:00 PM	C12		Portland	Southwest	2279	1:20 PM	C19	Boarding
Chicago-ORD	Delta	4569	4:00 PM	C12		Portland	Southwest	3221	3:00 PM	C8	
Chicago-ORD	Delta	4567	4:00 PM	C12		Portland	Southwest	471	3:15 PM	B8	On Time
Chicago-ORD	Delta	4565	4:00 PM	C12		Portland	Southwest	1281	3:15 PM	C18	
Chicago-ORD	Delta	4563	4:00 PM	C12		Portland	Southwest	1225	4:30 PM	C18	
Chicago-ORD	Delta	4561	4:00 PM	C12		Portland	Southwest	7832	4:30 PM	A1	
Chicago-ORD	Delta	4559	4:00 PM	C12		Portland	Southwest	870	3:31 PM	B12	
Chicago-ORD	Delta	4557	4:00 PM	C12		Portland	Frontier	683	4:10 PM	C18	On Time
Chicago-ORD	Delta	4555	4:00 PM	C12		Portland	Southwest	3018	4:30 PM	B9	
Chicago-ORD	Delta	4553	4:00 PM	C12		Portland	Southwest	589	1:40 PM	C10	1:50P



Construction started in March 2016, and Concourse A opened for flights in July 2017; the B/C connector opened in January 2018. “If you look at this timeframe, the procurement method lends itself to getting a very complex project done in a tight timeframe,” Gambrill notes.

Phasing for the fast-paced, multi-project renovation program was an “extensive effort,” but having a construction manager helped smooth the process, says Sucher. “We have an 80,000-square-foot facility that was built on top of an active baggage handling system, next to gates that were constantly having carriers coming in and out, while blowing a hole through

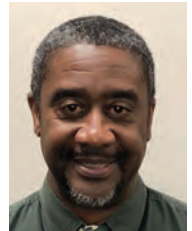
the ticket lobby and relocating two checkpoints without a hiccup to passengers,” he marvels.

Using building information modeling was critical to phasing the construction, Gambrill adds. The 3-D modeling allowed all project partners to work together to ensure constructability of the design, while also maintaining airport operations, he explains.

Prior to most of the construction, crews completed underground utility work and placed piles for Concourse A.

To increase security and decrease personnel costs, FLL incorporated a dormakaba Exit Lane Breach Control System into the modernization project. The one-way exit corridor guides the flow of arriving passengers to the secure side of the airport without the need for TSA personnel. Once a traveler exits, a set of doors closes behind him/her to prevent re-entry.

Successful planning and coordination were demonstrated when crews placed giant exhaust fans on the roof of the connector facility between concourses B and C, reports Richard Welch, construction



RICHARD WELCH

project manager for the Broward County Aviation Department. Initially, the team planned to use a crane for the task, but that would have taken up to a full week and would have caused operational issues. Instead, a helicopter was used to place the seven large exhaust fans. While more expensive, this solution was much more efficient and only took a couple of hours, explains Welch.

“That’s a good example that it takes a team effort on all sides to accomplish a project like this,” Gambrill adds.

The team encountered an early challenge during the construction of Concourse A when floodplain maps for the area were revised, which raised the concourse level by approximately 2 feet above the existing Concourse B. To address this, designers stretched out the incline within the facility through a transition corridor between the two concourses.

Sustainability was also important on the project, Gambrill adds, and the new design includes low-water flow restroom fixtures, recycled building materials and ample natural light.



STRATEGIC VISION | SINGULAR FOCUS

Solving complex challenges demands a special kind of vision—a vision that captures the big picture without losing sight of the smallest detail. Since 1989, Ricondo has combined strategic thinking with technical expertise to deliver comprehensive management consulting services exclusively to the aviation industry.

Objectivity, accuracy, and responsiveness are the trademarks of our approach. That’s why when the operators of the world’s largest and most complex airports need a strategic partner, they trust Ricondo.

Learn how Ricondo’s vision and focused industry expertise can elevate your operations.



www.ricondo.com or info@ricondo.com | © 2018 Ricondo & Associates, Inc. All rights reserved.



Terminal optimization technology. Reimagined.

Amadeus sets the new industry standard: **multi-sided platform**.

Pre-Arrival to post-departure: **seamless integration, optimum results**.

On the ground or In the cloud: **any airline, any position, any time**.

The Amadeus multi-sided platform allows airports to implement and utilize a wide variety of operational, passenger processing, and business systems technology as an airport grows or as its needs evolve.



More than 3,000 square feet was devoted to a new interactive play area for kids.

in order to enact major infrastructure development and complete programs here," Gale notes. Each of the programs has different contract arrangements and delivery methodologies, but all must be approved by the Broward County Board of Commissioners in terms of budget, schedule and responsibilities.

Historically, FLL has been known as a low-cost alternative to Miami International Airport, its large hub neighbor to the south. But that seems to be changing, given the growth in flight volume and destinations served that FLL has experienced in recent years. "We believe we're an airport of choice," Gale remarks.

As passenger numbers track "well ahead" of forecasts, the airport continues to work with its airline partners to meet facility and passenger demands. "We've already begin to identify/plan for and fund additional improvements that will occur even before the Master Plan," Gale reports, adding that the Terminal 1 project is "one piece of a larger puzzle."

A \$130 million program, expected to be complete within the next three years, calls for the construction of connector facilities to unite the entire airport campus so passengers can avail themselves of all FLL amenities after clearing a TSA checkpoint.

Terminals 3 and 4 are already connected post-security, and adding the "missing links" between the remaining terminals is something that Gale says will allow passengers to enjoy all the amenities FLL has to offer, and also give the airlines and other tenants the ability to manage the facility in a "much different and more efficient way."

"This is just the tip of the iceberg," he reflects. "We have so much more that we're going to be able to produce as an airport when we get those other terminals connected behind security and start to effect the vision of the Master Plan." ✈️

Future Outlook

Southwest's growth at FLL has continued since the opening of Concourse A in summer 2017. Currently, the airline has 15 international flights and about 68 domestic. "We continue to see an appetite for international activity in the future," says Gillespie, noting that such growth would not have been possible without the addition of Concourse A, its swing gates and the new federal inspection station.

FLL is making a habit of engaging its airline partners in construction projects. In addition to the arrangement with Southwest for Terminal 1, the airport has an agreement with Delta Air Lines to lead a \$220 million program at Terminal 2 and another with JetBlue for Terminal 3. "We have a good track record of partnering with our airlines

VidTroniX

QUALITY PRINTERS BUILT TO LAST



Complete Check-In Desk in a mobile solution

From mobile print stations to RFID, Bluetooth and WiFi printing, VidTroniX offers a full line of check-in and security related products.

VIDTRONIX.COM | 913.441.9777

See us at ACI-NA | Booth #1627

Your trusted partner on the ramp

Twenty-five years strong, Signature Flight Support has grown to become the largest FBO network worldwide with more than 200 global locations on five continents. We proudly provide consistent, exceptional support services for business and private aviation.

Our sustained growth and success is powerful testimony to the financial resources providing stability and the long-term vision that is the foundation of our community partnerships.

You can trust Signature to be your partner today and beyond.



Signature
FLIGHT SUPPORT
A BBA Aviation company

For stories on Signature's role with airports and the communities we serve, please visit: www.signaturesoars.com

It's your **Signature.**TM

San Diego Int'l Adds Covered Parking Plaza

BY THOMAS J. SMITH



FACTS&FIGURES

Project: Parking Plaza
Location: San Diego Int'l Airport
Owner: San Diego County Regional Airport Authority
Cost: \$97.7 million
Financing: Airport General Obligation Bonds
Facility Size: 924,200 sq. ft.; 3 levels
Capacity: 2,907 vehicles
Construction: 2 yrs
Grand Opening: May 2018
General Contractor: Swinerton
Architect & Structural Engineer: Watry Design
Design Architect: Gensler
Parking Access Controls: SKIDATA
Reservation Software: Chauntry
Parking Guidance System: INDECT USA
Parking Management Suite: IPsens
Environmental Objective: Seeking Parksmart silver or gold certification
Sustainability Component: 100,000-gal. underground stormwater holding system captures runoff from building



When San Diego International Airport (SAN) decided to build its first parking garage, officials did not want a dingy gray concrete box. Instead, they asked designers to build a parking plaza.



BOB BOLTON

"There is the phrase, 'Build it and they will come.' In this case, it is, 'Name it and it will be,'" explains Bob Bolton, director of airport design and construction. "By calling it a parking plaza, it set the design team's

expectation at a higher level to create a premier passenger experience."

The recently completed \$97.7 million parking plaza measures up to its name with natural light, public art, views of the San Diego Bay and places for travelers to relax before and after their flights. The parking facility was designed to complement the airport's overall passenger experience, notes Bolton.

The three-story garage adds 2,900 spaces to the airport's existing inventory and sits opposite Terminal 2, sandwiched between the terminal roadway and the bay. Built atop an existing surface lot, the new structure opened in May after a nearly two-year construction

period. The extra parking capacity it provides will prove especially valuable this fall, when the airport begins preliminary work to replace Terminal 1. Even after an employee parking lot is closed to accommodate construction, SAN will still have a net gain of 1,700 additional parking spaces.

Personnel from Watry Design, the architectural and structural engineering firm that designed the new facility, credit SAN officials for driving the project team to surpass standard parking garage aesthetics. "They wanted to create a smooth airport experience," explains John Purinton, principal for Watry Design. "They want to make it easy for the passengers so they don't stress out in the garage. It was all their ideas."



JOHN PURINTON

Customer-Focused

The plaza design stresses tactile elements of the customer experience, advanced technology, safety and sustainability.

Watry placed three light wells throughout the garage to facilitate wayfinding, add natural illumination and help create a safe atmosphere for customers. Stairwells and

glass elevators were constructed adjacent to each light well. Instead of specifying solid walls, designers opted for seismic movement-resistant frames within the columns. As a result, sunlight can be seen from anywhere within the garage, explains Purinton. The light wells, stairwells and elevators are color-coded for additional wayfinding assistance.

Choosing glass elevators was a matter of safety by design, adds Bolton. "It's see and be seen," he explains.

An additional stairwell and elevator are also positioned at the edge of the building, opposite Terminal 2.



MARC NICHOLS

Marc Nichols, the airport's director of ground transportation, notes that SAN opted for a "speed ramp" on the exterior of the building rather than a slower helix style system. The ramp

is designed to move vehicles directly to each level without mixing with pedestrian traffic. Vehicles enter the south side of the plaza and pedestrians exit the north side, opposite the terminal. Within the garage, walkways separate pedestrians and vehicles.

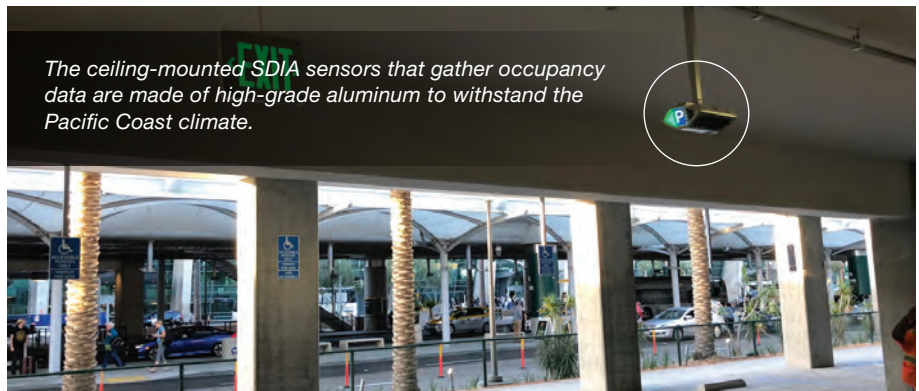
Although the new parking structure was originally approved for five stories, designers reduced the height to three floors and expanded the footprint to avoid blocking views of the bay from Terminal 2. To meet requirements of the California Coastal Commission, a viewing balcony was created on the top level of the garage for those wanting to sit and watch the bay.

Advanced Technology

Even before seeking proposals from contractors, SAN's program documents called for advanced technology to help direct passengers to open parking spaces.

In addition to featuring a guidance system that uses sensors and LED displays, the new facility taps into SAN's existing reservation system and includes software that will permit the airport to introduce dynamic pricing in the future.

While automated guidance systems are being more common, they are still the



exception rather than the norm. According to Purinton, only about 10% of new airport garages have some form of a guidance system. Travelers at SAN, however, are likely familiar with the feature, because a local shopping mall uses a similar system.

At the airport, a custom-designed INDECT USA system monitors the facility with sensors to help direct drivers to open spaces. The garage features 189 high-visibility LED signs that communicate the location of empty spots. The status of each space is indicated by LED lights: green for available, red for occupied, blue for

handicapped parking, and clear for electric vehicle charging stations.

Because the system is integrated with the rest of the parking software, the airport will be able to zone premium parking areas and offer 'Find My Car' service to travelers who forget where they parked, says Dale Fowler, president of INDECT USA.

The final element of the technology suite is the implementation of wireless sensors on the garage rooftop. The sensors are integrated with the general parking management system through a cloud-

Stick. Stay.

Magnetic base stanchions stay firmly in place until you're ready to move them.

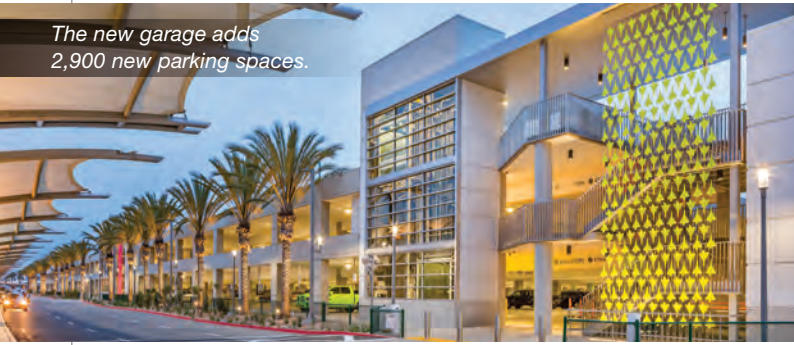
- **KEEPS QUEUES ORGANIZED**
- **SPACE SAVING**
- **RECONFIGURABLE**






Learn more at lavi.com
or call 1.888.285.8605

The new garage adds 2,900 new parking spaces.



based software interface developed by IPsens, which manages the sensors and parking guidance systems. The open IP system allows the airport and its consultants to work together to improve the software and the technology it's managing, permitting the software to adapt to the airport's evolving needs.

"Open IP is the future of parking software," says Gorm Tuxen, president of IPsens. "The beauty of the open IP approach—beyond improving the operations of a single piece of equipment or technology suite—is that it encourages sharing among parking organizations and their technology gurus. Airports and other parking owners can explore, experiment and share the results of those experiments to create innovative new ways to utilize different types of equipment."

SAN's current reservation system (Chantry) encourages passengers to plan ahead for parking accommodations by extending discounts to customers who reserve parking when

making airline reservations. At the time of booking, a traveler pays for parking and is issued a barcode, which can be printed or sent to a smart device. Parkers use their unique barcodes to enter and exit the garage, explains Chantry CEO Theresa Hughes.

Looking ahead, the system will also support dynamic pricing. Although real-time pricing may be months or even years away, the new software will allow SAN to implement it when officials feel the time is right. Meanwhile, the airport can use yield management to make sure that prime spaces are filled. Eventually, SAN may differentiate parking fees to adjust pricing to fill spaces. "We want to maximize revenue without gouging the passengers," explains Nichols.

Airport officials also plan to add a corporate parking program. License plate readers will recognize program participants to open the gates.

Because of the technology that has been integrated, passengers enjoy the most convenient parking experience imaginable, says Chris McKenty, a sales representative for SKIDATA. Travelers can breeze in and out of the garage without giving it a thought, he adds.

Sustainability

After Terminal 2 achieved the top Leadership in Energy and Environmental Design (LEED) certification, airport officials were determined to maintain the same commitment to sustainability during the parking plaza project. Although LEED does not apply to parking structures, Parksmart does; and SAN is pursuing at least a silver designation. Parksmart and LEED are both administered by Green Business Certification.

To meet Coastal Commission stormwater requirements, the airport installed a 100,000-gallon underground holding system. According to Bolton, the system captures and treats 100% of all rain falling onto the garage. The treated water is then used in place of potable water in the central utility plant that provides air conditioning for the terminals.

Energy-efficient features within the garage include LED lights on motion sensors. Natural sunlight from the light wells also contributes to the building's sustainability.

The Process

The airport used a two-step method to select its partners for the project. Before issuing a request for proposals, it prequalified six teams to submit project proposals, proposed construction costs and fees. Officials then narrowed the field to three and reviewed final presentations and proposals to select its partners.

Swinerton, a local construction firm, assembled the winning team and served as general contractor for the project. Watry Design was the architect and structural engineer



www.idspids.com









Passenger Information
Display Systems



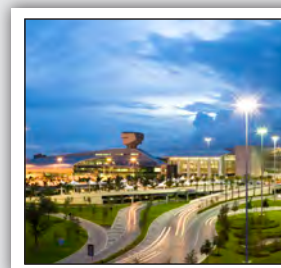
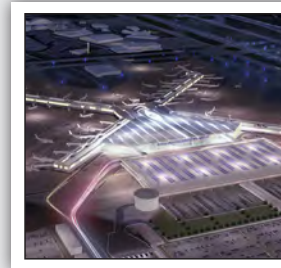
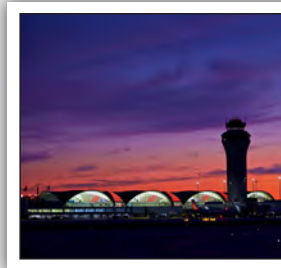
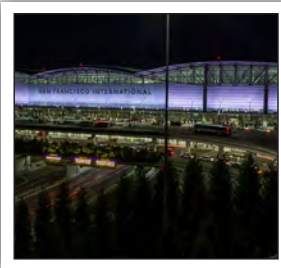
ADA-Compliant
Audio/Visual
Wayfinding Solutions



Web-Integrated
Solutions

INTERNATIONAL DISPLAY SYSTEMS, INC.
For Ideas. For Performance. For Dependability. For Peace of Mind.

CAN YOU MATCH EACH AIRPORT'S VINTAGE & FUTURE PHOTOS?



This year, Airports Council International – North America is celebrating our **70th anniversary** of championing priorities on behalf of the airport industry. We have long been known as the **“Voice of Airports”** in North America. While our name has changed once or twice over the last 70 years, **our mission has not**. We continue to advocate policies and provide best-in-class professional development to strengthen the ability of airports to serve their passengers, customers, and communities. For us, this celebration isn’t just about our organization’s rich past. *It’s about looking beyond the horizon* to advance the mission of our organization in the **next 70 years**.

Thank you from all of us at ACI-NA.

THE **VOICE** OF AIRPORTS®



CHRIS MURPHY

for the project and Gensler was the design architect. Chris Murphy, project executive with Swinerton, notes that Gensler was drafted for the team because of its experience as lead designer for SAN's Terminal 2 project, a highly touted effort known as the "Green Build" that won a number of design and environmental honors. The airport and project team specifically wanted the new garage to maintain a consistent look with Terminal 2.

Although Swinerton was project manager for SAN's Terminal 2 project, it had never acted as a general contractor for the airport. In addition, the garage was Watry's first project at SAN.

The garage was executed as a progressive design-build project, with Swinerton, Watry and Gensler teaming early in the process and working with the airport hand-in-hand.

The design-build process creates a bond of trust and transparency, says Purinton. The design builder team's fee is negotiated upfront, and issues along the way—such as change orders or project delays—do not change the final fee.

The approach also addresses unexpected expenses. Contingency funds were built into the cost estimate to cover high material or

labor costs and to replace concrete cracked during the course of construction. In both cases, all of the contingency funds were not needed, and the savings were returned to the project. Cost savings are shared with all parties as program incentives, explains Bolton.

When the final cost estimate came in higher than the airport's budget, the team examined all costs and decided to forgo some decorative exterior elements to bring the project back on budget. "By working on the design, we were able to make the building more efficient and straightforward with natural concrete," recalls Bolton. "We were able to achieve a nice clean design without spending money for architectural finishes."

Another element eliminated for cost-cutting purposes was a series of architectural screens to shield the stairwells. But the airport used funds from its art budget to commission hanging sculptures that function in a similar fashion. (Per airport authority rules, 2% of eligible construction costs are devoted to public art.) A local artist fabricated 638 cast resin airplanes that hang from the top deck to the ground. Each of the three installations form a screen and are color-coded to aid with wayfinding.

As construction progressed, crews achieved cost savings, and the project team was able to restore additional design elements that were previously cut during the design phase. ✈️

THE INDUSTRY'S BEST PARKING RESERVATION SYSTEM

RezPort

WHITE-LABEL PARKING TECHNOLOGY SOLUTIONS FOR:
Airports, Cruise Ports, Municipalities and Universities

FOR MORE INFORMATION VISIT: www.RezPort.com



The **A-Zoefitg** of airport seating.



A B C D E F G H I J K L M N O P Q R **S** T U V W X Y Z

San Diego
International Airport

Zoefitg's renowned and innovative seating solutions suit airports to the letter.

Stylish and comfortable enough to create a welcoming environment, they're also robust and durable enough to withstand the rigours of thousands of daily visitors.

With an extensive and ever expanding global network of dealers on the ground, and hundreds of proven airport installations worldwide, Zoefitg continue to set the airport seating standard.

To find out more, email sales@zoefitg.com

Dedicated to public seating perfection

www.zoefitg.com

Greenville-Spartanburg Int'l Switches to In-House Fixed Base Operator

BY KEN WYSOCKY



FACTS & FIGURES

Project: In-House Fixed Base Operator

Related In-House Ventures: Cargo Handling; Ground Support Services

Location: Greenville-Spartanburg (SC) Int'l Airport

Business: Cerulean Aviation

Start Date: Jan. 1, 2017

Estimated Start-Up Costs: \$20 million

New Employees Hired: About 55

Primary Investments: 2 new hangars; equipment for general aviation services & cargo handling; new fueling facilities & fueling trucks

Funding: Capital improvement funds; general airport revenue

Consultant: Trillion Aviation

Fuel Supplier: World Fuel Services

Equipment Vendors: AERO Specialties; Clyde; Doosan Industrial Vehicle America Corp.; Eagle Tugs; Harlan Global Mfg.; JBT AeroTech; SkyMark Refuelers; Hyster Co.; Lektro; Multi Service Technology Solutions; NMC-Wollard; Power King; Starcraft Bus; TLD; Toyota Material Handling USA

Key Objectives: Enhance customer service; increase revenue; improve competitive position for attracting general aviation business

Results: Revenue from fuel sales increased 66% to \$1 million from 2016 to 2017



Early last year, Greenville-Spartanburg International Airport (GSP) opened Cerulean Aviation and joined the growing ranks of commercial airports that run their own fixed base operators (FBOs). The South Carolina airport took the strategy one step further by also opting to provide cargo handling and ground support services for commercial charter flights.

Airport officials explain that the move is designed to enhance customer service, increase revenue and make GSP more competitive with neighboring airports that largely cater to corporate and general aviation aircraft.

Physical infrastructure to support the new businesses cost approximately \$20 million. Investments include two new hangars, ground support equipment, cargo handling equipment, fuel farm facilities and fuel trucks. Those expenses do not include the cost of hiring roughly 55 new employees or upcoming infrastructure improvements that might be covered in part by FAA grants.

David Edwards, president and chief executive officer at GSP, reports that on balance, the investments have been worthwhile, because they are spurring business and revenue growth.



DAVID EDWARDS

Cerulean—named after the distinctive color of the Blue Ridge Mountains that are visible from the airport—opened for business in January 2017. To manage the different service sectors, the airport split Cerulean into two divisions: general aviation and commercial aviation.

GSP's decision to bring FBO services in-house rather than contract with an outside firm is part of a larger U.S. trend. In 2007, only 1,060 of 3,500 public-use airports with paved runways longer than 3,000 feet owned and operated their own FBOs. By 2017, that number rose to 1,300—a nearly 23% increase, reports Jeff Kohlman, managing principal of the

Aviation Management Consulting Group, which serves general aviation airports and businesses.

Kohlman clarifies the statistics by noting that the company defines an FBO as any entity that sells fuel at an airport, and a fairly high percentage of the 1,300 in-house FBOs only provide self-service fueling. Few are full-service operations like GSP's Cerulean, he notes.

A 2017 report from the National Air Transportation Association (NATA) largely attributes the trend toward airport-owned FBOs to the declining value proposition for private investment at airports that are especially dependent on piston-powered operations. More specifically, as the number of private pilots has decreased—licenses have declined 32% since 2000—avgas sales have fallen 41%. Because fuel revenue is the primary source of income for FBOs, declining sales hamper their ability to make investments in infrastructure improvements, the report explains.

Not surprisingly, the report found that airport-owned FBOs are particularly prevalent at airfields with runways less than 5,000 feet long. In contrast, GSP has an 11,001-foot-long runway and handles about 45,000 annual operations, including commercial flights for American Airlines, Delta Air Lines, Southwest Airlines, United Airlines and Allegiant Air.

Opportunity Knocks

"We saw a great opportunity to move forward...and offer our customers a higher level of customer service and more competitive pricing, as well as make investments in new hangar facilities that would raise our FBO service to another level," Edwards says of the move.

Nathan Garner, director of aviation services, explains that GSP wanted to "break out of the mold" for typical municipal FBOs. "It took commitment from the top and a clear understanding of our end goal, then hiring accordingly," Garner remarks. "That's why we structured Cerulean with a manager for commercial aviation services and a manager for general aviation services. There's a difference in their value propositions; so in order to provide good customer service, we concluded it was best to hire a manager for each of these industry segments."



NATHAN GARNER

So far, the results have been positive. Importantly, the total volume of fuel sold (to both commercial and general aviation aircraft) increased about 32% during the first year of operation, to 14.5 million gallons. "This wasn't a fluke," Edwards asserts. "Some of that growth came from commercial fueling, but there's no question that we had customers come back to us because our prices were more competitive."

Moreover, revenue from fuel sales increased to \$1 million in 2017—a 66% increase over the previous year, when a private FBO handled fuel services. "We weren't going to do this if we weren't going to make more money," Edwards says. "Generally speaking, we run Cerulean Aviation very much like a private-sector business. At the end of the day, we're always looking to get a return on our investment."

Planning Stages

The move toward in-house operations started in 2014, when GSP officials began considering whether or not to renew the contract of the airport's resident FBO. The company's 10-year contract was set to expire at the end of 2016, and the FBO had been operating on the field since 1962.

Eventually, three options were considered: put out bids for a new operator; run the FBO under a management agreement with a third-party company (similar to the way concessionaires manage airport parking lots); or exercise GSP's "proprietary rights under FAA regulations" to run its own FBO.

"After a fair amount of deliberation amongst my team and the board (the six-member Greenville-Spartanburg Airport Commission), we brought in a third-party consultant, Trillion Aviation, to see if our conclusions held water," Edwards recalls. When Trillion determined that the move made sense, management began assembling a team, buying equipment and planning for facility improvements.

Keep your VIPs feeling like VIPs

Easily manage Club Lounge occupancy levels.

- **Qtrac** people counting and analytics technology.
- Track occupancy in real time.
- Head off issues with instant alerts.
- Monitor activity and historical trends with custom dashboards.

Lavi Industries | qtrac.lavi.com | 1.888.285.8605



STEVE BOWLIN

In spring 2017, GSP hired Steve Bowlin to manage Cerulean's general aviation services and Kelly Wiggs to manage commercial operations. Edwards says their experience (nearly 40 years combined) was critical to the initiative's success.

Today, the general aviation division employs 21 people, including 15 service technicians and four customer service representatives. About 80% of the employees who worked for the former third-party FBO now work for Cerulean. That was a big help, given the region's tight labor market, says Bowlin.

"As with any business where you start from scratch, there was a long laundry list of things to do: getting equipment, setting up accounts and so forth," he explains. "But the single biggest challenge was assembling a staff and being ready to go on day one."

The airport also had to select a point-of-sale system for selling fuel and other products on a retail basis. GSP selected an airport business management system called Total Aviation Software, from Multi Service Technology Solutions.



KELLY WIGGS

In addition, GSP is investing about \$15 million to build two new hangars: a 33,000-square-foot bulk hanger and a 20,000-square-foot corporate hanger for Michelin.

Equipment Investments

The airport used capital improvement funds to purchase about \$400,000 in equipment for providing general aviation services. The new fleet includes three tugs, two made by Eagle Tugs and one by Lektro; an electric tow tractor from Lektro; a lavatory cart from AERO Specialties; two portable diesel ground-power units built by AERO Specialties; four ground power units for indoor maintenance made by Power King; a complement of tow bars and tow-bar heads for various corporate aircraft, manufactured by AERO Specialties; and a 14-passenger vehicle from Starcraft Bus to transport passengers from remote ramps to the Cerulean executive terminal.

Management opted to buy new equipment rather than used or refurbished to reduce the potential for long-term repair costs. "It's just like buying a new car—you know what you're getting, without any shadows hiding behind the doors," Bowlin says. "If you start with junk and it constantly breaks down, you're out of business. Plus, we wanted to promote Cerulean as a premium-service FBO, so we need to look and act the part."

The airport also upgraded its fuel facilities at a cost of about \$2.5 million. In-ground tanks were replaced with aboveground tanks that provide 120,000 gallons of capacity. GSP added another 30,000-gallon tank this summer, Edwards reports.

A new vendor, World Fuel Services, now supplies GSP's aircraft fuel. The airport also leases seven fueling trucks, made by SkyMark Refuelers, from World Fuel at a cost of about \$158,000 per year. The trucks' tank capacities range from 1,000 to 10,000 gallons, says Garner.

CYCLONE COMES OUT ON TOP!



The **CY4006AC** – Purpose-built chassis/cab gives direct line-of-sight to the cleaning path. Providing superior operator visibility and comfort. **Best Value for Money.**



The **CY4006HT** – Heavy-duty Cyclone Technology cleaning power on a Heavy-duty truck. High water capacity allows for over 5 hours of operating time.



The **CY4006ST** – Rubber and paint removal with the power of a Cyclone on a compact and affordable platform. Ideal for contractors and low volume airports.



The **CY5500** high productivity surface cleaning system for gate cleaning, parking structures, and pickup/drop-off areas. Designed for large area outdoor cleaning, grease and oil cleanup, glycol recovery, fuel spill cleanup, etc.

Faster, Greener, Cleaner The Cyclone Difference

The US Army Corps of Engineers, ERDC, (Engineer Research and Development Center) evaluated the performance of 3 Ultra-high pressure water (UHPW) rubber removal technologies for the Air Force Civil Engineering Center.

Here are some of their conclusions.

- **Pavement-tire friction coefficients** - Measured sections cleaned by the Cyclone 4006 showed the most improvement at 40 mph friction test and at 60 mph friction test.
- **The Cyclone 4006 operates noticeably quieter** - The Cyclone was the only system that could be operated without hearing protection and made it easy for airfield radio communication and training.
- **Easy to operate** - This [Cyclone] technology can potentially reduce manpower, decrease training requirements, and improve reliability.



CycloneClean.com
1.800.335.9695
info@cycloneclean.com



For more details and information, visit us at CycloneClean.com

facebook.com/cycloneclean twitter.com/cyclonotech

Heavy Lifting

The decision to offer cargo handling services for charter flights also required capital investments in equipment—roughly \$2 million in all. The inventory of new machines includes two Hyster Company 5,000-pound forklifts; two Hyster 10,000-pound forklifts and two Toyota 5,000-pound units; a 20,000-pound-capacity forklift for handling over-sized freight, made by Doosan Industrial Vehicle America Corp.; two JBT AeroTech high-loaders for handling palletized freight on 747; eight tow tractors made by TLD, Harlan Global Manufacturing and NMC-Wollard; two Stinar stair trucks for 747s and other aircraft; two belt loaders from NMC-Wollard; and more than 90 cargo dollies made by Clyde.

In its first year of operation, Cerulean Commercial handled 1.9 million pounds of imported and 1.5 million pounds of exported cargo. The bulk of that business was driven by BMW, which operates a large plant in Spartanburg, SC.

The airport handled another 20.1 million pounds of imported and 9.9 million pounds of exported cargo for Senator International, a freight forwarder hired by BMW to handle 747 aircraft cargo.

“In essence, we load/unload the planes, provide security, accept the freight, screen the freight and enforce all applicable regulations,” Wiggs says. “You could say that Senator and Cerulean are partners working towards a common goal: to provide upstate South Carolina with an air cargo shipping solution to Europe and Mexico.”

The biggest cargo planes that Cerulean regularly handles are 747s as well as occasional Antonov An-124s. “For emergency deliveries, we see a lot of older DC-9s, 727s and 737s (converted to cargo planes),” he explains. “You name it, we’ve seen it—as small as a Cessna 224 delivering a box the size of your hand, perhaps containing a crucial repair part, and as large as a (six-engine) Antonov An-225 that might be delivering GE gas turbines to a customer.”

Currently, the airport has only one parking space large enough to handle a 747 cargo jet, but construction is already underway on a dedicated commercial cargo ramp. The \$14 million project, which is eligible for FAA funding, will add capacity for three 747s by early 2019. Eventually, space for three more will be added for a total of six new spots, notes Wiggs.

The additional capacity for 747s is significant because scheduled cargo service generates additional landing fees. “As a result, our landing fees have decreased as our total annual tonnage has increased...because we’re able to spread that cost of maintaining the airfield out across more landings,” Garner says.



The airport invested about \$2 million in cargo handling equipment such as forklifts and high-loaders.

FOD*BOSS - FOD GONE



Photo courtesy of NASA

- ✦ Unbeatable performance
- ✦ Removes nuts, bolts, washers, stones, sand
- ✦ No motors, vacuums, magnets
- ✦ Sweep widths 8', 16', 24' / 2.4m, 4.8m, 7m
- ✦ Efficient and fast - up to 30mph / 50kph
- ✦ Works on all surfaces - wet or dry
- ✦ Low cost, portable, reliable
- ✦ Maintenance free
- ✦ Easy to use

fodboss@aerosweep.com or visit www.fodboss.com
This product is subject to one or more of the patents and/or patents pending as listed at www.aerosweep.com

DISTRIBUTED IN THE U.S. BY MYSLIK, INC. ☎ 303.697.9692
WWW.MYSLIKINC.COM | bmyslik@myslikinc.com





The new airport-owned FBO debuted in January 2017.

In addition, a 110,000-square-foot freight storage warehouse is in the design phase. The projected cost for that project is \$13 million.

Hiring & Training

Finding employees for cargo handling wasn't easy. "We're the only people in our region doing palletized cargo," says Wiggs. "FedEx does it in a limited capacity, as well as UPS, but they're not building up a lot of pallets with nets and such."

As a result, GSP had to develop its own training program for cargo equipment operators. Teaching employees to drive a tug and dolly proved to be the best starting point, because it's one of the easiest machines to master. And fluency there indicates an employee likely has the aptitude to handle more complex machines. Once employees master tug



You need more than just a fuel supplier in **your World.**

At World Fuel Services, we are bringing more than 8 billion gallons of cost-competitive fuel to more than 700 airlines and 15,000 business and general aviation customers, at over 3,500 airports worldwide. More than that, we work as true partners of our airport and aviation customers, providing you with an unmatched range of fuel solutions and services to improve your operations.

Discover how to bring our know-how into your world at wfscorp.com/aviation

Discover our fuel and service solutions wfscorp.com/aviation



Fuel | Trip Support | Card and Reward Programs | **Logistics** | Technology | **Technical Services**

and dolly driving, they progress to using high-loaders and forklifts.

“That can take about a month, mentored by an experienced operator,” Wiggs says. “Mating equipment up to a plane isn’t easy—there are a lot of tricks of the trade for operating that kind of machinery. We also try to cross-train so we can handle the same operations across all our shifts. Full cross-training probably takes six to eight months.”

Spreading the Word

GSP announced the news about Cerulean at various National Business Aviation Association events—regional meetings, the annual national convention and the scheduler/dispatcher conference. It also placed advertising on websites used by pilots for flight planning.

Competitive fuel prices play a role in Cerulean’s marketing efforts, though Bowlin says he’s not interested in engaging in price wars with three neighboring general aviation airports. “We’re not going on a race to the bottom...we still want to be a value play,” he explains. “Our fuel prices aren’t the cheapest; so we really need to deliver on service.

“I think that at the end of the day, success comes down to providing great service,” he continues. “If you’re not willing to commit to great service, you’re not going to be successful. And that means understanding exactly what higher-level of service is. It’s not just being a gas station. It means going well beyond what an airline would do for its customers.”

Cerulean consequently focuses on dispatching friendly, welcoming line workers who fully address passengers’ needs and get them where they need to go. Complimentary breakfast and lunch snacks, soft drinks, water and gourmet coffee are also standard. “There are no vending machines,” Bowlin points out. “Everything is laid out for customers. We want to present a competent staff that delivers the kind of service you’d expect at a Ritz-Carlton hotel.

“We want them to come away saying, ‘Wow, you don’t see that kind of service everywhere else,’” he adds. “I think that for the most part, we’re delivering that. In some ways, with just a year and a half into it, we’re still in training mode. But our goal is to keep getting better every day.”

INNOVATIVE CONCRETE TECHNOLOGY FOR **AIRFIELD PAVEMENT**

Use Rapid Set® Concrete when extended closure in high traffic areas is not an option. Rapid Set is trusted by airports worldwide.

Return to service in 2-3 hours

Service life of 80+ years

Lower carbon emissions by 32%

Ideal for single and intersecting runways, aprons and taxiways, and gate areas.



For more information, call **888-339-2014**
or visit **CTSCEMENT.COM**

Keys to Success

Garner encourages other airport officials who are interested in launching an in-house FBO to begin the process by identifying their motivation and setting specific goals that they want to accomplish. Then, he recommends hiring leadership with a track record of delivering on those kinds of goals.

“For example, when we decided to take over the FBO operations, we posted a job description and received a lot of applications, many of them from municipal-run FBOs,” he explains. “But because our goals were to improve customers’ experience, provide competitive market rates for fuel and generate revenue for the airport district, we wanted someone with experience in the private FBO industry, not municipal airports. We wanted someone who could operate and manage the FBO as if it was a business because at the end of the day, that’s where we want to be.”

GSP also looked for leaders who could adapt quickly to unexpected circumstances. “You can’t fully anticipate everything you might have to deal with, no matter how much you prepare,” says Edwards. “You just have to be flexible. I’ve got to imagine it’s like any entrepreneur starting a business for the first time. There are things you miss, no matter how many people you talk to or



Cerulean retained most of the employees who worked for the former third-party FBO.

how much due diligence and research you do. The key is just don’t miss the big items.”

Edwards reports that GSP’s move to take its FBO in-house has exceeded management’s expectations so far—and they were high, both in terms of financial return and customer reception, he notes. Initially, there was some skepticism expressed by the outgoing FBO and certain general aviation/corporate customers. “There definitely were naysayers,” he recalls. “But now, they’re our biggest cheerleaders.” ✈️

Airport Construction & Maintenance Solutions



We offer a full line of innovative products to meet FAA Advisory Circular standards.

- Aerocade™ Low-Profile Airport Barricades
- Safe-Hit® Certified Airport Taxiway Markers
- Yodock® 2001 & 2001MB water-filled barricades to delineate work zones for construction and maintenance



TRINITY
HIGHWAY
RENTALS

trinityhighwayrentals.com

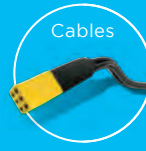
888.496.3625

The logo for ITW GSE, featuring the letters 'ITW' in a stylized, bold font above the letters 'GSE' in a similar font, all in white on a dark blue background.

Power



Air



Cables



Hoses

Simply smarter ground support

THE SAME GREAT SOLUTIONS A LEGENDARY NAME

Beginning in April 2018, the Hobart, AXA Power, Houchin, Military and J&B Aviation brands will be sold exclusively under the ITW GSE name.

Our products will remain unchanged. The people you know and trust will still be here to serve you. All that will change are the names. Simply smarter solutions from ITW GSE.

itwgse.com



AXA POWER HOBART HOUCHIN J&B AVIATION MILITARY

It's all about connections

Valley Int'l Fire & Rescue Station Improves Response, Training

BY MINDY HAMLIN

PHOTO: BRYAN WREN

 When the time came for Valley International (HRL) to upgrade its aircraft rescue and firefighting (ARFF) facility, officials at the Harlingen, TX, airport joined forces with their design team to create a building uniquely designed for firefighters. The new \$3.8 million, 10,000-square-foot station officially opened in May with a host of features to enhance safety and efficiency.



CAPTAIN DAVID LOMPRA

Constructing a new ARFF facility had been a relatively low priority in the airport's capital improvement program for 10 years. However, the project moved to the top of the list with the purchase of two new trucks—an Oshkosh Striker 4x4 and E-One Titan Force. The new equipment was too big for the former station, explains ARFF Captain David Lompra.

“Our new trucks fit in the facility, but very cautiously,” he elaborates. “In addition, the facility was overcrowded, uncomfortable and not conducive to learning.”

Bryan Wren, assistant director of aviation at HRL, notes that the former station failed to meet several FAA requirements, including

building age and equipment dispatch time. “Because of the size of the trucks, space was tight and our firefighters could barely squeeze into them,” he explains. “Our top priority was for the new facility to be built to ensure the safest operations, because HRL is the premier airport of the Rio Grande Valley.”



BRYAN WREN

Priorities Drive Design

When airport officials began working with architectural and design firm AECOM, they had a list of objectives already in mind for the new facility.

Naturally, they wanted to ensure that the location of the building met FAA requirements for emergency response times. The old facility allowed firefighters to meet response times. However, as airport and ARFF personnel began working with architects and designers, they realized that another location could work even better.

“The more we looked at location options, we saw that if we built the facility adjacent to two of our taxiways, we could improve response times,” says Lompra. “The old facility was located at the base of the air traffic control tower. We did not miss



FACTS&FIGURES

Project: Aircraft Rescue & Firefighting Station

Location: Valley Int'l Airport —Harlingen, TX

Annual Passenger Volume: 700,000

Facility Size: 10,000 sq. ft.

Cost: \$3.8 million

Funding: 90% FAA Airport Improvement Program; 10% airport funds & passenger facility charges

Architecture & Design: AECOM

Station Staff: 3 onsite firefighters; 9 full-time; 12 alternates

response times, but it was a circuitous route. Now, we have a direct shot that gives us a rapid and smoother path to the airfield.”

Making the new facility “self-sufficient” was another priority, adds Wren.

Located in southeast Texas, HRL is no stranger to hurricanes. As such, the new ARFF station was designed and built to withstand a Category 5 hurricane, which required a backup generator to power emergency lighting, communications equipment, overhead doors, alarms and other essential systems during potential power failures. Other required features include a recharging system for self-contained breathing apparatus tanks, an onsite foam delivery system and a coed dorm with separate quarters for male and female firefighters.

Staff Input Ensures Utility

With the construction of a new ARFF station, HRL officials recognized they had an opportunity to create a state-of-the-art facility that would ensure efficient operations, improve training opportunities and provide more comfortable accommodations for their firefighters.



PHOTO: BRYAN WREN

Firefighters helped guide the facility design.

PANTHER



rosenbauer

The new Panther is on the prowl with the latest innovations and advanced technologies. The 4x4 and 6x6 models are a perfect fit for any ARFF department!



150+ YEARS

OVER 150 PLUS YEARS OF EXPERIENCE

ROSENBAUERAMERICA.COM

INFO@ROSENBAUERAMERICA.COM

[f](#) ROSENBAUER GROUP

[t](#) @ROSYFIRE

[v](#) ROSENBAUERFIRE

Rosenbauer Minnesota, LLC

5181 260th Street; Wyoming, MN 55092 | 651.462.1000

SOUTH DAKOTA, LLC. #011714-RSD | MINNESOTA, LLC. #011714-RMN



Improving the station's training facilities was a top priority.

PHOTO: BRYAN WREN

Lompra, the airport's ARFF captain since 2008, provided valuable input regarding the building's design.

"He took a lot of time to let us know what the firefighters' needs were," says Shaun Breslin, AECOM project designer. "The captain's involvement was critical because it helped inform our design decisions throughout the project."

Lompra embraced the opportunity to provide ample perspective from the ARFF team. "I can't tell you the amount of input we had," he remarks. "The design team was very receptive to our thought process."

Input from frontline ARFF personnel drove the implementation of a sophisticated alert system that notifies the station and activates the "crash line" as soon as the control tower receives an emergency alert from an aircraft. Lights in the dorms and hallways leading to the equipment bays turn on automatically; the overhead bay doors open; and the ventilation system turns on to distribute clean air throughout the engine bay.

"By the time the firefighters hit the floor, everything is ready to go," says Lompra. "Also, if they were cooking on the Viking range, the gas valve turns off automatically."

Another top priority for the ARFF team was improving the station's training facilities. According to Lompra, the previous building was cramped and not conducive to training. In contrast, the new training room includes a smart television, data connections and a high-reach extendable turret simulator.

"We have to maintain readiness at all times," says Lompra. "We now have a room specifically for that purpose."

Location Challenges

While the airport's ARFF facility had been located at the base of its control tower since the early 1970s, officials took the opportunity to determine the optimum location for emergency operations.

The AECOM team ran computer simulations to help pinpoint the best location and ensure that the ARFF team could respond to the farthest runway center point within three minutes. The location of the new building was crucial to ensure FAA funding for the project.

The selected site required architects to specify a sloped roof for the new facility to preserve line of sight for air traffic controllers. "Without the slope on the building, we would not have been able to build the ARFF facility in this location," says Wren.

ARFFRecurrent.com

Complete Recurrent Training on Your Schedule

Anytime, anywhere, 24/7, on any device.



Cost Effective

Cloud-based subscription solution for all-sized Fire Rescue airport operations.



Stay Compliant

Meets FAA ARFF requirements for Fire Rescue personnel.



ssi
safety & security instruction

The 11-hour curriculum is based on NFPA standards and meets 14 CFR §139.319 Aircraft Rescue Fire Fighting Training requirements

Get Started Today!

ARFFRecurrent.com

480.699.3743 Ext. 2

High Speed – High Volume Snow Fighting Machine

T95



After nearly 5 years of market research and development LARUE introduces in 2013 the Self-propelled, purpose designed T95 Snowblower /Broom chassis. This multifunctional snow fighting machine features options such as a mechanical, hybrid mechanical and hydrostat combination and a HV High Volume High Speed hybrid version that moves 7,500 tons per hour of snow at 25 mph with up to 1,050 HP at the blower head. Other options include an out front 18 to 22 ft. brooms and snow plow configurations.

LARUE

Key Features and Benefits



1

OPERATIONAL

Chassis Multi-function available with

- 3 different Snow blower heads
- 18 to 22 ft Front brooms
- 14 to 24 ft Snow Plows

Attachments

- Three versions of our Snow blower heads:
 - Conveyor; hydrostatic, hydrostatic hybrid or mechanic drive*
 - Automatic variable speed (AVS) conveyor*
 - 112 in. of working width **1**
 - Reversing rotation of impeller or/and conveyor (auger) for disgorging snow
- Front brooms (14 to 22 ft) **2** :
 - Variable hydrostatic drive
 - Automatic pattern adjustment*
 - Automatic according to Ground Speed control*
- Snow plow
 - 14 to 24 ft width straight or flare type
 - 32 degrees of plowing angle on both sides



2



3

Propulsion power train

- Transmission Ratio can be shifted-on-fly with the press of a button on the key pad **3**
- Equipped with real snow and ice tires* that work like chains **4**
- Axles with self-protecting differential locks
- Provides power to front attachment when required; Hybrid Power Boost*



4



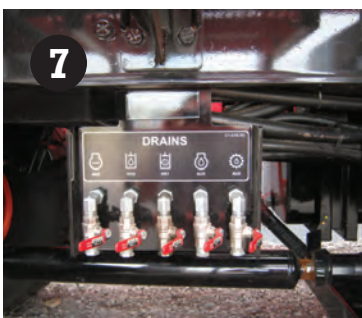
5

Vehicle Maneuverability

- Automatic Rear Steering (ARS)*:
 - Auto or manual mode
 - Crab or Crawl mode
 - Manual override on auto mode
 - Memory position on manual mode (red line) **5**
 - Rear wheel position on vehicle display (blue band) **5**
- Rear bumper cut at angle on both sides(Wrap around type) **6**
- High ground clearance; 16 in.
- Hitch lower arm parallel to chassis frame to maintain traction at the front wheels
- Optimized wheel base for perfect weight distribution
- Weight transfer system to maintain 50-50 load on axles



6



7

MAINTENANCE

- Maintenance free and self-adjusting aux. transmission clutch
- Ease of Maintenance, easy access drain ports with valves in one location **7**
- Easy access to engines with tilting rear cowling and large side doors **8**
- Electrical input/output status visible in the display
- 30 gallons Deluge system with 2 inch filling cap and level sight glass **9**
- Both sides fuel cap; Fuel fill on either side
- Glass doors with wipers
- Easy access underneath the cab with hinged doors. Easy access to electrical panel and components underneath the cab and electrical panel from cab rear doors **10**
- Automatic lube system*



8



9



10



11

ERGONOMIC CAB

Construction

- Quiet interior; sound level is 72 dBA in operation
- Curved and reverse ranked windshield to prevent ice built up.
- Great all around visibility:
 - Front high and low view 11
 - Rear far view 12
 - Side low view 13

Controls and displays

- All operational controls are completed with the right hand 14
- Adjustable armrest and joystick support 15
- Windshield wiper controls on steering column
- Two programmable Displays 14
 - HD colored
 - Separated by functionality for quick reading
 - Auto-lift when reverse is engaged for attachment, selectable
 - Automatic fast idle setting for engines, selectable
 - Pre-programmed electrical power outputs all around
 - Maintenance reset hour
- Multi-functional joystick: 16
 - All hydraulic functions
 - Automatic rear steering (ARS)
 - Auxiliary engine RPM up and down
 - Attachment engagement via display selection
 - Chassis automatic transmission F-N-R
- Moving direction of joystick corresponds to components direction
- The two 12-button illuminated key pads with LED confirmation
- Windshield Wipers:
 - Left Foot switch on footrest to wipe one time 17

Heating

- Heater/Defroster/AC* with constant temperature climate control 18
- Heated wiper blades*
- Heated windows* without obstruction lines
- Side glass doors with heated* awning windows

Steering Column

- Infinitely adjustable, foot pedal activation 17
- Integrated carrier engine key switch
- Soft grip steering wheel 14

SAFETY

- Easy access to the shear bolt system from the top behind the cab; warm and dry area 19
- 3-point seat belt
- Seat switch stopping the attachment engagement or when no operator is present
- Attachment present switch, preventing engaging when PTO is not connected
- ISO symbols are used for instrumentation
- Wrap around handrails for 3-points of contact 20

*Optional equipment



12



13



14



15



16



17



18



19



20

Larue Offers Airports a Full Lineup of Snow Removal Equipment



OUR MISSION IS TO DESIGN AND BUILD THE BEST AND EASIEST TO SERVICE SNOWBLOWERS ON THE MARKET.

J A Larue Inc. is a family owned and managed company that has been involved in the snowblower industry since 1973. Our management is committed to producing the finest most reliable snowblowers available. To accomplish this task, we pay particular attention to our customer's needs and requests to improve safety, performance and the quality of our products. We are very proud of our products, but even more so of our customers who inevitably are our best resource for continued sales growth.

In this day and age, quality and workmanship are the greatest virtue for a manufacturer to have but to continually improve, leadership and commitment are required. We at J A Larue are very fortunate in that we have this commitment in the form of our company President and Director of Engineering, Mr. Denis Larue, Eng. Denis oversees the engineering, design and manufacturing Departments with vigilance but never losing focus on the end-users needs.

Denis once quoted this simple phrase years back when we first started working together.

"In engineering it is easy to make something complicated but always challenging to keep it simple."

For the past 20 years that I have worked at Larue, Denis has strived with our team to manufacture the most



In 2018, J A Larue celebrated its 45th year in business. From left to right; Louis Larue Vice President, company founder and past president Andre Larue and Denis Larue President.

reliable. User-friendly, innovative and easiest to service airport and industrial snowblowers available anywhere.

In the sales department our Vice President Louis Larue and I will do our best to help you the snow fighting specialist in your respective responsibilities.

For more information, please contact the manufacturer J.A. Larue Inc. or your local distributor.

660, Lenoir, Quebec City, Qc, Canada G1X 3W3 | 418-658-3003 | 877-658-3013 | Fax: 418 658-6799 | www.jalarue.com | jaluarue@jalarue.com

The 10,000-square-foot station provides more space for the airport's new trucks.



PHOTO: BRYAN WREN

The location also presented challenges for the general contractor, Harlingen-based Peacock General Construction. The first time it rained, for instance, water from the airfield drained into the construction area. Crews easily controlled the flow by digging a trench around the site and grading the ground to drains.

Soil conditions, however, proved to be a bigger issue.

“The soil at the site was very unstable,” explains Tre Peacock, owner of Peacock General Construction. “It took a lot of work to get the ground stabilized.”

Ultimately, crews excavated 3 to 4 feet of existing soil and replaced it with more stable soil the contractor imported to the site. A geogrid and limestone further stabilized the subgrade.

“The job went a little longer because we had a lot of issues with the dirt,” reflects Peacock. “With all of that, though, it turned out to be a beautiful project; and HRL was wonderful to work with.”

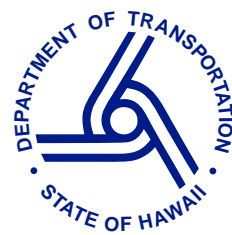
The 15-month project was completed within its \$3.8 million budget, 90% of which was covered by the FAA Airport Improvement Program. The remaining costs were paid for with airport funds and passenger facility charges

Lompra reports that the new ARFF station is receiving rave reviews from his team.

“The layout of the facility makes it easier for us to respond to an incident,” he says. “Everything is better, from where we connect to the airfield to the learning environment. It all helps keep us mission-ready.” ✈️

Honolulu Int'l Adds Free, Unlimited Wi-Fi for Passengers

BY KRISTIN VANDERHEY SHAW



FACTS&FIGURES

Project: Free Passenger Wi-Fi; Distributed Antenna System

Location: Daniel K. Inouye Int'l Airport

Network Operator: Boingo Wireless

Terms: 10-yr contract; Boingo pays Hawaii Dept. of Transportation percentage of annual revenue for advertising, retail & roaming

Cost: No capital outlay for airport; project cost supported by roaming, carrier leasing on DAS network & advertisements sold by Boingo

Timeline: initial phase completed Dec. 2017; final phases completed May 2018

Whether travelers visit Honolulu for business or the spectacular sun, sand and surf, most bring along multiple electronic devices to keep in touch with friends and associates.

Before December 2017, travelers passing through Daniel K. Inouye International Airport (HNL) could access the airport's Wi-Fi network, but it came at a price, and they were on the clock. As digital usage trends continued to curve sharply upward, it became clear to the team at HNL that passengers needed better access to high-quality, unlimited Wi-Fi.

"We were looking to enhance the passenger experience at all the airports in Hawaii, and providing free unlimited Wi-Fi is one of the amenities we wanted to offer," says Tim Sakahara, public information officer for the Hawaii Department of Transportation. "Travelers want to be able to log on for various reasons, like looking up restaurants, flight information, hotel accommodations and sharing their experiences via social media."



TIM SAKAHARA

Now, HNL offers free, unlimited Wi-Fi service with funding support from online advertising. Since the new service launched, the airport has facilitated more than 1.5 million Wi-Fi connections. With 20 million passengers enplaning and deplaning annually, Sakahara anticipates Wi-Fi usage to increase even more—especially since the new service was phased in gradually and has only spanned the entire airport since May.

Connected Passengers Are Happy Passengers

After issuing a request for proposals to find the right partner, HNL chose Boingo Wireless, which operates wireless networks in airports, stadiums, campuses, military bases and commercial properties throughout the United States. The previous vendor HNL had used for many years was a local company that could not meet the growing demand, explains Sakahara. Boingo offered the depth and breadth of service the airport was seeking, along with a proven track record, he adds.

In addition to upgrading internet service at HNL, the Hawaii Department of Transportation plans to upgrade Wi-Fi service at all four of the state's other commercial airports: Kahului Airport (OGG), Hilo International Airport (ITO), Ellison Onizuka Kona International Airport at Keahole (KOA) and Lihue Airport (LIH). According to Sakahara, improvements are scheduled to be complete by the end of the year. In addition to managing communications for the state's airports, he also oversees communications for its highway and

ports, including 10 commercial ports that import essential supplies to the islands for residents and visitors alike.

At airports, Wi-Fi is the No. 1 requested amenity for travelers, notes Boingo Vice President Danielle Aiello. "To most passengers, connectivity is as important as the air they breathe," she quips.



DANIELLE D AIELLO

With mobile data consumption at an all-time high, connected passengers are happy passengers. As such, connectivity has become a required amenity for airports to offer, says Aiello.

"Free and unlimited Wi-Fi is something travelers had requested, and in many cases, have come to expect," agrees Sakahara.

Improved Connectivity & Revenue

In order to receive free, unlimited internet access at HNL, passengers view a static ad or watch a 30-second (or less) video. Alternately, they can purchase a one-day or monthly subscription through Boingo for faster, ad-free service.

The sales team from Boingo Media secures high-engagement Wi-Fi sponsorships with brands and deploys targeted ads by terminal, by language and by time of day. According to Aiello, Boingo Media is the world's largest Wi-Fi advertising network.

From a business perspective, the ads help fund the cost to provide free Wi-Fi at the airport. HNL agreed to a 10-year contract, and Boingo pays the Hawaii Department of Transportation a percentage of revenue from advertising, retail and roaming. Because the wireless company also supplies the equipment to run the Wi-Fi system, there was no capital outlay for the airport.

SAFETYFLEX AIRPORT BOLLARDS FROM TYMETAL

- Crash tested, low cost, patented construction
- Shallow mount foundation, fast inexpensive installation
- Car and Truck Stopper (K4) in stock
- K8 and K12 equivalents available
- Used in the London 2012 Olympic Games
- Crash tested bollards may also be used as street furniture (planters, benches, bike racks)
- Technical and design support provided



678 WILBUR AVE., GREENWICH, NY 12834 | 800.328.GATE (4283) | INFO@TYMETAL.COM OR WWW.SAFETYFLEXBARRIERS.COM



Better Wi-Fi service is part of a statewide airport modernization program.

Just One Piece of the Puzzle

The recent Wi-Fi improvements dovetail with other HNL projects detailed in a plan that looks five to 10 years out. Recently, the airport broke ground for a new concourse.

“Our goal is for the overall passenger experience to be positive, and having service like this contributes to that,” says Sakahara. “The Hawaii Department of Transportation is making huge improvements to the facilities of the structure, the gates, the restrooms and more. There are a lot of exciting improvements to boost the passenger experience.”

A statewide airport modernization program rings in at almost \$3 billion, with the bulk of funds focused at HNL.

Sakahara says that the airports are transforming in myriad ways, including aesthetically. “We updated all the gates and terminal names, refreshed our gate numbers, and added new signage,” he says. “Everything inside and outside is being changed for better wayfinding and a fresher feel at the gate.”


New, more efficient rental car facilities are planned for HNL and OGG, which is located on the island of Maui. Passengers will no longer be required to take shuttles to off-site facilities, because the consolidated car rental centers will be centrally located at the airports. At OGG, an electric train will take passengers directly to the new rental car center, thus reducing roadway congestion by eliminating the need for shuttles.

Passpoint, Boingo’s next generation hotspot technology, makes connectivity at the airport more convenient. As passengers move from automobile to curb and train to gate, the airport’s Wi-Fi automatically connects them without the need for separate log-ins or passwords. This technology will also help HNL get ready for 5G, notes Aiello.

“The next generation of cellular network technology will be a game-changer,” she predicts. “It will leverage both Wi-Fi and

cellular and look at technologies like Passpoint to facilitate seamless connectivity. 5G represents a shift in mobile services and will have a big impact on the Internet of Things. It will be key for successful and smart airports to keep up with technology trends.”

Sakahara has already noticed a shift in public sentiment at HNL. He reports that passengers are surprised and delighted to discover that the airport now offers unlimited free Wi-Fi.

“We are focused on making the airports more useable and efficient,” he remarks. “We’ve added more retail shops, a cultural garden, more sidewalks, new restaurants. All airports want to improve the passenger experience, and the new free Wi-Fi helps with that.” 

The state transportation department also contracted Boingo to install a distributed antenna system (DAS) to boost cellular signals in all five Hawaii airports. The cellular DAS network is now live and will improve signal strength and increase capacity to improve mobile coverage for travelers, regardless of which wireless carrier they use.

Improving Wi-Fi and cellular service can result in better coverage and lower cost, says Aiello. “When you have network convergence, you have more spectrum,” she explains. “It’s a better user experience across the board. Venues are opting for both Wi-Fi and cellular solutions because of skyrocketing demand for mobile data service.”



**BLAZING FAST
CONNECTIVITY
=
HAPPY
CUSTOMERS**

Nearly two-thirds of people (62 percent) say that they feel anxious when not connected to Wi-Fi. Keep your passengers connected and at ease with wireless solutions from Boingo.



Blazing fast DAS, small cell & Wi-Fi connectivity



Instant, secure access with Passpoint™ technology



Award-winning customer service

Why stress it? Let Boingo take your customer satisfaction to a whole new level.

WANT TO LEARN MORE? CONTACT:

Danielle D. Aiello | VP, Account Management | daiello@boingo.com

Proud member of the ACI-NA Business Information Technology Steering Group



**COLORADO SPRINGS
AIRPORT**



Colorado Springs Airport Reopens Terminal One Day After Three-Alarm Fire

BY ROBERT NORDSTROM

FACTS&FIGURES

Event: Three-alarm Terminal Fire

Location: Colorado Springs (CO) Airport

Date: April 16, 2018

Damage Estimate: \$5.6 million

Cleanup & Restoration: ServPro

Air Quality Testing: Integrity Air Quality

General Contractor: Bryan Construction

Construction Management: RS&H

Demolition & Removal: Iron Mountain

Structural Engineer: MGA Engineers

Engineering Consultants: Bridgers & Paxton Engineers; Van Sant Group

Architecture: DWL Architects; HB&A

Construction Consultant: MKA

Interior Design: Senger Design Group

Interior Construction: Rocky Mountain Interior Construction

Electric: Benwick Electric

Mechanical Contractor: PLS Mechanical

Roof: Douglas Roofing

Information Technology: FM Global

Environmental Inspection: NES Environmental

Fire Alarms: Western States Fire Protection

Noteworthy Details: Airport reopened the next day; city council helped expedite recovery by passing emergency ordinance that allowed officials to spend up to \$5 million of airport funds on cleanup efforts



Shortly before 11:00 p.m. on April 16, emergency 911 operators received a call about smoke and flames emanating from the roof of the terminal at Colorado Springs Airport (COS). Within minutes, the airport had a three-alarm fire on its hands.

Director of Aviation Greg Phillips, who was at a professional conference, flew back immediately and was at the scene the next day. "At 22:51 the fire department received a 911 call from the parking lot toll plaza," he explains. "About a minute later, one of our staff who was outside the terminal building noticed the fire and notified our Communications Center. A Communications Center staff person also called 911, but at that point the fire trucks were already on the way. In fact, the fire trucks were on the scene by 22:54."

Video images from that evening show what appears to be a whiff of smoke around 8:05 p.m. "There's no way you could detect that with the eye, but the cameras picked it up," adds Phillips. "Then around 10:30, the video shows a flame—very small at first, which is why it took around 20 minutes before anyone saw it."



GREG PHILLIPS

The fire broke out on the second-story roof, where renovation work was being performed next to the third-story conference room. It was a windy evening and workers had left the job at around 4:30 p.m., explains Phillips. The third floor, which does not cover the entire terminal footprint, contains a conference room and administrative offices, but no public spaces.

Quick Response

In addition to three Colorado Springs Fire Departments, emergency personnel from Peterson Air Force Base also arrived quickly on the scene. [The base provides airport rescue and firefighting (ARFF) services for the airport in lieu of rent.] In all, more than 60 firefighters battled the blaze.

Local law enforcement ordered immediate evacuation of the terminal, recalls Assistant Director of Operations and Maintenance Brett Miller, who was on the scene with Assistant Director of Business and Finance Troy Stover



BRETT MILLER



TROY STOVER

shortly after the initial 911 call was received. The Communication Center issued an all-call page throughout the terminal building to begin the evacuation.

According to local media, firefighters could see flames shooting from the roof before they reached the airport. “We set up our aerial ladder and attacked the fire from the outside,” said Colorado Springs Fire Department Lt. Doug Pape. “Then we sent crews to the inside to make sure we didn’t have any fire inside of the building.”

The third floor location presented extra challenges. “We had to do relay pumping to aerial operations,” Pape explained to KKTV. “We [had] water supply, but there wasn’t any right in front of us like there would be for a house fire; so we had to have a fairly long lay-in. That delayed a little bit, the operations of getting water to the fire.”

Miller estimates there were 200 to 300 people in the building when the fire occurred, including a holdroom full of people waiting for an inbound Frontier flight that had just arrived. All concessions were open in both sterile and public areas of the terminal.

Further complicating matters, three aircraft landed around the same time the fire was reported. Two were directed to the fixed base operator on the west side of the airport, and passengers deplaned there. The third held passengers onboard, waiting in the general vicinity of the terminal.

“Pat your head and rub your tummy—we had everything happening at the same time,” Phillips quips. “The last thing we wanted was to have a whole lot of passengers running around on the tarmac. Airport staff did a great job focusing on priorities: the safety of the people in the terminal, getting them out, and attacking the fire.”

On the secure side of the airport, a police officer started at the TSA checkpoint and walked the concourse, directing everyone toward gate 12, where they exited the building onto the tarmac, the farthest point from the fire. In the public areas, including concessions, ticketing, baggage and car rental, an officer and operations staff directed people out the front door of the terminal.

While the threat of terrorist activity is always a concern for airport officials, Miller and Stover both suspected the roofing work as a more likely catalyst after they learned where the fire originated. Their inclination was confirmed in July, when local police officially ruled the fire an accident associated with the application of roofing tar and materials with a torch. The district attorney reviewed the investigations and no criminal charges were expected.

Emergency responders extinguished the active fire on the roof in approximately 45 minutes and then focused on determining whether it had infiltrated concealed areas of the ceiling.

Firefighters spent an additional three to four hours using infrared heat guns to search for possible hot spots in the ceiling, notes Stover.

“To make sure that we were completely out on such a large structure, we took our time making sure we had no re-ignition,” Pape explains.

At 4:30 a.m., fire officials gave the all-clear and allowed COS management to assume control of the building. Airport officials and staff immediately began assessing damage and devised an action plan to get the terminal up and running so commercial flight activity could resume as soon as possible.

Emergency general aviation and military traffic continued throughout the event without interruption.

Pulling Together

Making sure the building was structurally sound and the air quality safe were the first orders of business. Telephone calls to contractors began around 4 a.m., and several crews were at the airport three hours later, waiting for the structural engineer and industrial air quality hygienist to give the thumbs up for workers to enter the building.



REUSABLE MODULAR WALLS & ENCLOSURES

Save time, money, and the planet one wall at a time with McCain Walls.

Customize walls and enclosures to suit your airport project needs. All systems are reconfigurable and can be enhanced with an array of options.

Reduce noise and keep travelers safe from construction areas with secure wall structures.

Quick and easy to use, *McCain Walls* can be installed, relocated, and dismantled faster than traditional drywall saving time; and they emit zero waste.

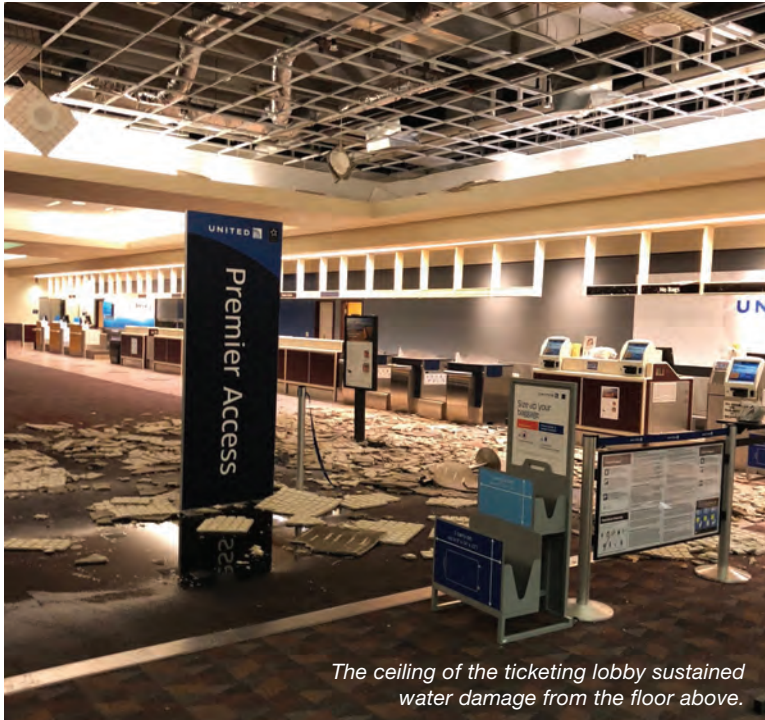
It's the ideal solution for multi-phase airport projects.



Proud to be part of airport projects across the US:

Boston Logan Intl Airport (BOS)
Denver Intl Airport (DEN)
Fort Lauderdale-Hollywood Intl Airport (FLL)
Los Angeles Intl Airport (LAX)
Ontario Intl Airport (ONT)
San Diego Intl Airport (SAN)

mccainwalls.com | 760.295.9230 | info@mccainwalls.com



The ceiling of the ticketing lobby sustained water damage from the floor above.

“We did not allow anyone into the building other than airport staff and contractors because the ceiling tile debris made it a hazardous hardhat area,” says Stover. “Colorado Springs Mayor John Suthers authorized me to do what we needed to do to get the airport operational as quickly as possible. Our contractors started work immediately without contracts or negotiated fees. We figured we would just have to follow up later on those issues.”

ServPro, a reclamation contractor, began vacuuming up water, ripping out carpet and removing wet drywall and ceiling tiles. The fire had touched off the conference room sprinkler system, which ran water through a 1.5-inch line for four hours. While the fire itself damaged a portion of the roof and conference room, the sprinklers left several inches of water throughout the third-floor offices. The water also made its way down to the second floor, where it drenched United Airlines’ offices, ticket counters and baggage belt system, rendering them unusable. The terminal’s main electrical switchgear area also took on a lot of water. But after it was removed, an electrical contractor assessed the area and deemed it operationally safe.

A Practical Approach to AOA Safety

Optimize value, performance, and guidance with proven pavement marking materials supplied from **one** source.



ENNIS-FLINT
The Mark of Traffic Safety®

AIRMARK® PREFORMED THERMOPLASTIC

- AirMark® Preformed Thermoplastic for Multi-Colored Markings at 175+ Airports
- Benefit Cost Analysis Available

PAINTS

- Fast-Dry and High-Build Waterborne & Solvent Based Paint
- FAA Listed Buy-America

www.ennisflint.com

Ennis-Flint ISO 9001: 2015 Manufacturer • 4161 Piedmont Parkway, Suite 370, Greensboro, NC 27410 • sales@ennisflint.com • 800.311.8118

Contractors immediately set to work erecting temporary walls to prevent the public from entering damaged areas. Airport staff relocated United's ticket counters, and information technology personnel rerouted cabling and wiring for the airline's communications system. COS employees also developed signage to direct the public when the terminal reopened. ServPro laid temporary carpet over the concrete floor where soaked carpeting had been ripped out.

Throughout the day, COS management held briefings in the airport's operations and maintenance building to keep airline, rental car and concessions tenants informed about what was being done and when the terminal would reopen.

At 3:30 p.m., the mayor and fire chief held a press conference to inform the public that the terminal would be fully functional and all airlines operating at full capacity by 3:30 the following morning. It had been a sleepless night and following day, but the terminal reopened just 23 hours after airport management resumed control of the building.

"We would not have been able to get up and running so quickly without the support of our staff and community," Miller reflects. "And the leadership of our mayor and contracting community,"



Stover quickly adds. "Those relationships—together with the airport staff that showed up at two in the morning and worked 24 hours straight to make sure the airport could reopen—it wouldn't have happened without those people."

Moving Forward

While COS officials expect the airport's insurance to cover damages and repairs, they did not have to wait for investigation results before paying contractors. To get things moving more quickly, the Colorado Springs City Council passed an emergency ordinance allowing the airport to spend up to \$5 million on fire recovery.

Handling connections. Worldwide.

Leonardo has over 20 years' experience in the design and delivery of innovative automated baggage handling systems for airports, worldwide.

A complete suite of energy-saving, ergonomic easily-maintainable products ensure unparalleled security, efficiency and a seamless customer experience.

Inspired by the vision, curiosity and creativity of the great master inventor - Leonardo is designing the technology of tomorrow.

Visit us at ACI/NA Annual Conference and Exhibition, booth 1387



70
1948 • 2018

leonardocompany.com

Helicopters | Aeronautics | Electronics, Defence & Security Systems | Space

LEONARDO
SECURITY & INFORMATION SYSTEMS

A reclamation contractor vacuumed up water, ripped out carpeting and removed wet drywall and ceiling tiles.



“The \$5 million comes from money we have in our capital improvement funds,” Phillips clarifies. “We just needed the authorization to spend it. It does not come from public tax funds.”

Interestingly, COS had recently hired HB&A Architects to develop a terminal modernization plan. With money in the budget for upgrades and modifications, the airport is carefully tracking funding sources as recovery proceeds.

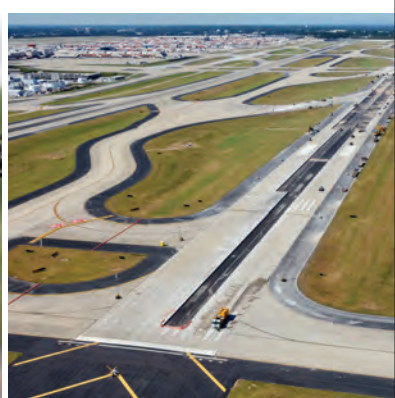
“Virtually everything touched by water has to be cleaned or removed,” Phillips remarks. “The water flowed through ceiling tiles, ducts and between walls. Now you have mold and mildew issues. The carpeting has been ripped out and the entire drop ceiling on a large portion of the first floor torn down. Now we have the opportunity to think about what we want to do different. These are the kinds of decisions we are making over a six- to 12-month period rather than a two-year period.

“The most important thing is that nobody was hurt,” Phillips stresses.

The airport anticipates finishing repairs to the second and third floors by mid-November. Repairs to the baggage claim area are scheduled to begin early next year. ✈️

Michael Baker
INTERNATIONAL

We Make a Difference




Providing a full complement of aviation services to airports and clients of every size

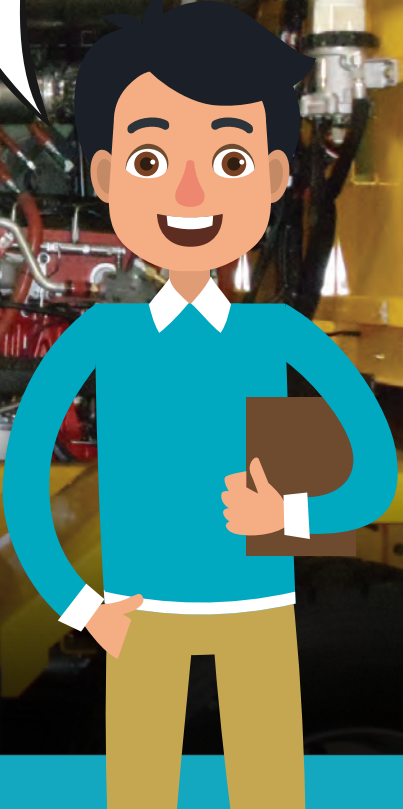
- Planning • Environmental • Airfield/Landside Design • Airfield Electrical/NAVAIDs • Architecture
- Construction Management • Program Management • Asset Management • Pavement Management
- Mobile/Static LiDAR • Laser Crack Measurement System • UAS/Drones

Greg Fredrickson | GFredrickson@mbakerintl.com | 410.689.3440 | MBAKERINTL.COM

AIRPORT FLEETS ARE NOT CREATED EQUAL But M-B Service Can Help



I just got my ASS
chewed about all this down
time with our equipment.
What can we do?



Calm down! My airport
called M-B! They work on any
manufacturer's snow equipment.
Along with their yearly audits,
our units are running at over 95%!

M-B OFFERS "ALL MAKES" SNOW REMOVAL VEHICLE PROGRAMS
FOR MORE INFORMATION CALL 920-242-7075 - **THAT WAS EASY!**

PAID SERVICE

PAID AUDITS

OEM TRAINING

GARY RIHA | After-Market Service & Training Manager, Airport Maintenance Products | 920-898-1009 | Cell: 920-242-7075

KEVIN GADDIS | Field Service Manager, Airport Maintenance Products | Cell: 920-522-2094

AARON SCHULZ | Product Support/Parts Manager, Airport Maintenance Products | 920-898-1022



M-B Airport
Maintenance Products

Verisys Registrars®
Helpful Auditing

ISO 9001:2015 Certified

800.558.5800 | www.m-bco.com



080114-MBC

Toronto Int'l Undertakes Terminal Enhancement Program to Prepare for Passenger Growth

BY JODI RICHARDS



Toronto Pearson
International Airport | Aéroport International

FACTS&FIGURES

Project: Terminal Enhancements

Location: Toronto Pearson Int'l, Terminal 3

Owner: Greater Toronto Airport Authority

Primary Components: Renovation of Terminal 3; reactivation of 80,000-sq.-ft. Pier A; redesign of baggage handling system

Project Cost: \$250 million

Timeline: Construction began in 2013; completion expected in 2018

Architect: Stantec

Construction Manager: EllisDon; Hunt Construction Group

Project Managers: MMM Group; Revay

Baggage Handling System: Vanderlande; Glidepath

Digital Wall Screens: Samsung

Back-end Technology: Cisco

Primary Objectives: Improve passenger flow; modernize aging facilities; update concessions; comply with CATSA mandate for baggage handling systems

BURRITORIE™

Portes Baggage

iStore





With passenger volume expected to reach 85 million by 2037, Toronto Pearson International Airport (YYZ) is taking steps to ensure its facilities are ready to meet the needs of passengers well into the future.

The Greater Toronto Airports Authority (GTAA) kicked off its YYZ Terminal 3 Enhancement Program in 2013 with the primary goals of improving passenger flow, introducing new and refreshed facilities, updating concessions and meeting a countrywide mandate for baggage handling systems from the Canadian Air Transport Security Authority (CATSA).

Major components of the \$250 million program include:

- reconfiguring the U.S. Customs and Border Protection Agency area on the departures level,
- expanding the existing bag claim area on the arrivals level,
- reconfiguring and expanding the departures level passenger check-in and pre-board screening facilities,
- reconfiguring and expanding departures level concessions,




The Airport Parking & Transportation Experts

At LAZ Parking we believe it's all about YOU. YOUR travelers, your bottom line & your satisfaction!

LAZ Manages over 2,700 properties across the United States including the following Airport Services:

- Parking Operations Management
- Shuttle & Bus Services
- Valet Parking
- Curbside Management
- Ambassador Programs
- Maintenance & Cleaning
- Intermodal Terminal Service for Air, Rail & Bus
- Park & Ride Operations




www.lazparking.com

Concessions are now concentrated airside, in newly renovated spaces.



BEFORE



CyberLock®
Innovative | Durable | Dependable

Track Access and Manage Schedules
 Subcontractors • Vendors • Employees • Technicians

- » Secure All Access Points Without Hardwiring
- » Retrofits Into Existing Hardware
- » Control Key Permissions via Bluetooth® or Wi-Fi Connection

sales@cyberlock.com 541.738.5500 www.cyberlock.com

- relocating some airport authority support and tenant areas, and
- fully renovating the remote Pier A facility and returning to service.

Before the recent and ongoing enhancements, Terminal 3 had remained largely unchanged since it originally opened in 1991, notes Tony Crepinsek, associate director of Infrastructure Redevelopment, Airport Development and Technical Services for the airports authority. Time and traffic increases prompted the need for updates. In 2016, YYZ served 44 million passengers; last year, volume climbed to 47 million.

Because the Terminal 3 building was showing its age, GTAA officials were intent on updating its aesthetics and providing passengers an experience akin to what they find in Terminal 1, Crepinsek explains. In addition to updating materials and colors, project architect Stantec brought in more natural light through skylights and additional windows to transform the look and feel of Terminal 3.

Stantec principal Mehrdad Parsad highlights the “Eye in the Sky” atrium, a vertical connection between the arrivals and departures floors in Node C, as one of the “exciting, memorable spaces” created by project architect Ronald Mar and his team.



MEHRDAD PARSAD

“For the first time in Terminal 3, passengers can visually connect the various floors and have sight lines of other activities in the terminal. Sight lines are commonly overlooked as a critical element of passenger experience and orientation,” Parsad relates. “It also brings a lot of



natural light into the deep areas of the terminal floor plate.”

Stone and carpet patterns on the floor mirror the shape of the skylight above. Glass-lined passenger lounges and airline offices are located above the departures level.

Security & Screening Upgrades

Expanding the square footage of the facility was not an option, so the project team pumped up passenger processing capabilities in Terminal 3 by adding more self-serve check-in kiosks and self-serve checked baggage drops. “We didn’t add a new footprint to the building, so really what we’re doing is accommodating all these changes within the existing footprint,” says Crepinsek. Increased use of NEXUS, the U.S. Trusted Traveler Program and Canada’s Primary Inspection Kiosk program also provide additional capacity without investments in bricks and mortar.



TONY CREPINSEK

In order to comply with countywide CATSA regulations, YYZ is overhauling its five-level hold bag screening system to a three-level system. The transborder portion of the conversion is complete, and the domestic/international portion of the project is still underway.

Additionally, the airport implemented Screening in Advance, a joint requirement of the U.S. and Canadian governments to

Beautifully Designed.
 Extraordinary Comfort.
 Unmatched Durability.

AIRPORT SEATING
ASA
ALLIANCE

GATEWAY, Airport Seating for the future.

For more information please email info@airportseatingalliance.com

GATEWAY SEATING
 Designed by Dorsey Cox

Stantec

Design with community in mind
stantec.com/airports

Creating Connections

move passenger screening in front of U.S. Customs by February 2016.

The terminal's new pre-board screening area now uses CATSA Plus lanes, rather than CATSA Classic. This change significantly increased passenger throughput and expedited processing, and also provides passengers with a more pleasant security screening experience, reports Parsad.

Concessions Overhaul

Improving the overall passenger experience was a priority for the program, particularly in terms of concessions. Previously, much of the retail and food/beverage options in Terminal 3 were concentrated landside. To adjust to the way travelers currently use airports, concessions are now concentrated airside, where passengers spend most of their time.

The enhancement program included a complete redesign of 50,000 square feet of retail space. Located just past security screening, the new area offers passengers spots to relax and recharge, as well as places to eat and shop. "It's a pretty active and fun place for people to be," Crepinsek remarks.

A new walk-through duty free retail area allows passengers to shop immediately after they clear the screening checkpoint.

Retail revenue jumped immediately, with sales per enplanement up 125% from pre-construction levels, and total sales increased 234%, reports Crepinsek.

Large digital walls throughout the terminal allow YYZ to display entertainment or informational programming, and advertising spots provide new revenue opportunities. The new Samsung displays "add life to the building," says Crepinsek.

Reviving Pier A

After being mothballed for about six years, Pier A was re-opened in June 2015 following a complete renovation. Crews gutted the five-gate facility down to the studs to bring it back to life. "That did provide us a substantial amount of capacity from an aircraft perspective," Crepinsek notes.

Gates B1 to B5 of the 80,000-square-foot facility handle much of WestJet's domestic departures/arrivals and some international departures. Passengers access Pier A by escalator or elevator from the departures level of Terminal 3 through a connector that includes a moving walkway that extends under the apron and runs 235 meters between the main building and the remote gate area.

Your vision. Your aesthetics. Our tools.
Let's build smarter airports together.



SYNECT

synectmedia.com/vision
inquiries@synectmedia.com
(407) 601-1656

See us at FTE at booth A19 and ACI-NA 2018 at booth 1637.

The stair and escalator zone is surrounded by a stainless-steel frame, topped with textured translucent panels in blues and greens inspired by and subtly evocative of Niagara Falls.

Detailed Phasing

All of the work on Terminal 3, except Pier A, was carried out in a fully operational facility and therefore required careful coordination and phasing. "A goal of the project was to make sure we didn't lose processing capacity and maintained satisfactory passenger flows while we were delivering this project," Crepinsek states. As such, GTAA stressed the importance of minimizing disruptions by completing all work in a given area in one period—even in areas that required multiple renovations.

For example, crews built out the 100,000-square-foot Node C atrium in six major phases that spanned nearly two years. During renovations, the communications department implemented a graphics program to decorate the hoarding (construction partitions) used to block off areas under construction and reroute passenger flow. Instead of passing by plain white drywall, travelers saw messages designed to remind them that renovations were occurring to improve their experience. "It was

a good blank slate to provide information, and they were usually colorful images," Crepinsek notes.

With multiple carriers and other tenants maintaining operations in the terminal, scheduling/phasing all came down to determining how much area could be taken out of service without compromising the ability to process passengers and keep customers comfortable. Manny Bairos, construction superintendent at EllisDon Corporation, compares the process to a game of Jenga.

"The goal was to maintain the same capacity while doing our work," adds EllisDon Project Manager, Doug Farmer.

Sometimes, short-term provisions were needed. For example, YYZ added check-in kiosks and temporary bag drop facilities to facilitate passenger flow while crews replaced the terrazzo flooring on the departures level. In all, the flooring work included 30 separate stages.

Energy Enhancements

During the enhancement program, the airport authority took the opportunity to increase energy savings throughout Terminal 3.

All major public areas of the building were transitioned from



Runways love chemistry.

BASF is focused on helping airports meet the demands of runway deicing in an environmentally responsible way with potassium formate. Find out how BASF can help sponsor a trial evaluation and join the growing list of airports that have approved Alpine RF-14F®

Visit <http://bit.ly/runwaydeicing> to get started right now and help make a difference to the environment.



basf.com/formicacid-americas



® - registered trademark of BASF SE

incandescent and fluorescent lighting to LED fixtures—a project that took nearly a year and upgraded about 10,000 light fixtures.

Crews also upgraded HVAC, mechanical and control systems throughout the facility. Specifically, the control system was updated from an older, less reliable pneumatic system to a more modern electronic one.

More Work Ahead

For Crepinsek, overseeing the Terminal 3 Enhancement Program is “coming full circle,” since he worked at the facility when it first opened in 1991. But the work is not done yet. Another substantial phase will add square footage at both ends of the building. Other elements of the three- to five-year project will include passenger processing improvements and additional energy-saving measures. GTAA officials expect to have a designer on board for the next phase this summer. ✈️



The comprehensive renovation work that began in 2013 is nearly complete.



The Power of Experience

Ensuring Operational Continuity at the World’s Busiest Airports in the Northeast



General Contracting
 Construction Management at Risk
 Design Build
 Turnkey PBB Installation

Integrated Project Delivery
 Pre-construction
 Feasibility Studies
 Consulting

For more information contact:
 j.silvester@vrhcorp.com
 Or call us at 201.871.4422
www.vrhcorp.com



escape

Lounges

DINE • CONNECT • RELAX

escapelounges.com

BDL, MSP, OAK, RNO, ONT*, GSP*

*ONT and GSP opening autumn 2018



A PREMIUM AIRPORT LOUNGE EXPERIENCE AVAILABLE TO ALL TRAVELERS



DINE

Fresh and locally sourced food and beverages crafted in-house, curated by award winning local chefs.



CONNECT

Free High speed Wi-Fi, charging stations and desk space.



RELAX

Quiet space to relax and unwind with newspapers and magazines.

escapelounges.com

Complimentary access for American Express Platinum Card members and up to 2 guests



AMERICAN EXPRESS
GLOBAL LOUNGE COLLECTION

ESCAPE LOUNGES, CAR PARKING SERVICES AND P3, RETAIL & TERMINAL DEVELOPMENTS

To inquire about adding an Escape Lounge in your airport, contact Rosemarie Andolino.



Rosemarie Andolino
CEO and President
+1 312 883 2426
Rosemarie.Andolino@magairports.com

www.magworld.com

Edmonton Int'l Adds Designer Outlet

Edmonton International (EIA) is putting a new twist on airport retail with a landside mall that includes onsite boarding pass printers, flight status screens and other special features to convert passengers into shoppers, and vice versa. Additional airport-specific services include free shuttles to/from the terminal, in-mall luggage storage and discounted shipping for purchases made at the designer outlet stores.

"This entire mall is built around the EIA traveler, which is very, very unique," says Myron Keehn, vice president of Air Service and Commercial Development for EIA. "We are pleased to be offering services that have not traditionally been in the normal scope of mall offerings."

Airport officials worked with private developers to produce an environment that will inspire travelers to shop during long layovers and before/after their flights. They also hope the 100-store mall will encourage passengers to choose EIA over other nearby



MYRON KEEHN

airports. Premium Outlet Collection EIA, however, is just one line item of the Alberta airport's larger development program to leverage its 7,000 acres of property. (By landmass, EIA is the largest airport in Canada.)

An aggressive master plan targets four key areas of development: aviation/airport; aerospace/technology; cargo/logistics; and destination/commercial. The mall, which opened in May, is the latest component of the entertainment-oriented destination/commercial facet. A golf course and motor park already operate on airport land; new attractions scheduled to open in spring 2019 include an equestrian racetrack/gaming facility, COSTCO store, Marriott Hotel and canal that will accommodate three hockey rinks in winter and paddling in summer.

"This outlet mall is only one component of a bigger puzzle that we're putting together," Keehn explains. "It's going to be a whole entertainment complex that our partners are constructing on EIA land."



FACTS&FIGURES

Project: Designer Outlet Mall

Location: Edmonton (AB) Int'l Airport

Developers/Co-owners: Ivanhoé Cambridge; Simon Property Group

Mall Management: Ivanhoé Cambridge

Landlord: Airport

Mall Cost: \$215 million

Size: 590,000 sq. ft. (428,000 sq. ft. is leasable); room for expansion

Stores: 100 (by year end)

Grand Opening: May 2018

General Contractor: Ledor Group

Parcel Shipping: DeliverEase

Special Features: Shuttle service to/from terminal; flight arrival/departure screens; in-mall boarding pass printers & luggage storage; discounted shipping service for mall purchases

Environmental Achievement: Leadership in Energy & Environmental Design certification

Other On-airport Development: Golf course; motor park

2019 Additions: Equestrian racetrack/gaming facility; COSTCO store; Marriott Hotel; canal for 3 hockey rinks in winter & paddling in summer



Mall

BY VICTORIA SOUKUP

Two private companies, Ivanhoé Cambridge and Simon Property Group, shared development costs for the \$215 million mall, which is managed by Ivanhoé Cambridge. As landlord, EIA receives an undisclosed percentage of sales to boost its non-aeronautical revenue.

“Our responsibility, after safety and security, is driving regional economic development here in Alberta,” says Keehn. “We wanted partners that would innovate and be creative with us, and we found that.” Both developers share EIA’s long-term vision of the airport property, he adds.

Despite the current challenges facing malls, EIA officials and their retail development partners say the outlook for the Premium Outlet Collection EIA is strong given the wealth of Edmonton-area residents, the popularity of cost savings at designer outlet stores and the mall’s airport location. “We wanted to differentiate

ourselves from other malls and shopping centers, so we didn’t go after regular retail,” Keehn says. “We sought outlet stores and a fully-enclosed facility because of the winter weather to cater to travelers who go through our airport.”

Airport/Developer Partnership

Stepping into the mall—a figure-eight design with a 675-seat food court in the middle—it’s immediately obvious that Premium Outlet Collection EIA is different from other malls. “Simon and Ivanhoé Cambridge have a real partnership with Edmonton International,” says Simon CEO Stephen Yalof. “We share a number of amenities ranging from the flight information display systems (FIDS) we have positioned around the shopping center, to the shuttle transportation from the terminal to the mall. The airport presence is very much known when you shop at the Premium Outlet Collection EIA.”





The 70-by-85-inch FIDS units are located in four prominent areas throughout the mall, and use the same data feed as those located in the terminal. They are especially helpful for passengers who arrive at the airport before a flight and those with long layovers. In fact, on opening day in May, Yalof saw on a flight status screen that his flight home was delayed. “Knowing that information meant I could stay longer at the event,” he comments.



STEPHEN YALOF

There is also complimentary shuttle service that runs from the airport to the mall every half hour from 5:40 a.m. to 10 p.m.. Although mall stores don’t open until 10 a.m., coffee shops open earlier, and mall employees who take public transportation from other areas of the city to the airport take the shuttle from the airport to the mall.

A guest services area has a “refresh room” for weary travelers to wash their faces, change clothes and check luggage and coats while they shop. “This is a very nice service if you are on an extended layover,” says Jason Bos, general manager of the Premium Outlet Collection EIA.



JASON BOS

In addition, Guest Services also offers boarding pass printing, complimentary baby supplies and portable cellphone chargers.

On-site Shipping

Another popular amenity is the mall’s DeliverEase parcel delivery service, which encourages travelers to shop without worrying about packing purchases in their luggage or dealing with them as additional carry-on items. The mall subsidizes service from a local expediting company to keep parcel delivery costs lower than normal shipping charges, notes Bos.

“We’ll ship those purchases anywhere in the world they want them to go, which I think is one of the best services we provide,” Yalof says. “If you’re flying through EIA and your baggage is checked through to your destination, you don’t have to worry about repacking—we’ll ship everything back home for you.”



EXPERIENCE THE EFFECTIVENESS OF A METAL PLESS SNOW PLOW!



AVAILABLE IN SIZES UP TO 45' WIDE

CALL US NOW: +1.866.362.1688
WWW.METALPLESS.COM



Bos notes that the project developers consider shopping a form of entertainment, particularly when it involves designer outlet brands. "We are well aware that consumers are more informed than ever, and that their journey starts in the comfort of their home before they make their way to the mall," he says. "Millennials are also fueling the shift as they view shopping as entertainment. It all boils down to the experience you can offer them in your shopping centers."

Simon's Yalof echoes: "We don't have movie theaters in our outlet shopping centers. The entertainment is the shopping."

Designer Allure

Yalof says that the strength of outlet stores lies in value. "The thing that is unique about outlet malls compared to other types of retail such as regular malls, is the everyday value offered to customers," he explains. "We offer between 25% to 65% off every day. With other conventional retailers, you wait for items to go on sale during designated sale periods. We've got 80 to 100 fashion brands on sale every single day in our outlet shopping centers. That's really what drives our customer traffic, and that's what drives our best-in-class shopping experience."

Airport locations are proving to be valuable for companies like Simon and Ivanhoé Cambridge, because they generate traffic not only from travelers but also from people picking up and dropping off travelers. "Airports have been a pretty good model for us, and being at an airport is just another benefit after we determine a site is valuable," Yalof says. But he also stresses that the EIA location is unique. It is the first time the company has installed FIDS screens. "This is a new amenity, and I think it's a model for what we should be doing in the future," he remarks.

The mall is also marketed to the general public, as it sits along the major north-south high connecting Edmonton with the southern Alberta cities of Red Deer and Calgary. "It truly is a great location," notes Yalof. "The airport is growing at a very rapid rate, and 89,000 vehicles pass by every day in one of the fastest growing parts of Edmonton and one of the most affluent."

When the mall debuted in May, 85 stores were open; the remaining 15 stores are expected to be open by year's end. The six anchor tenants are Old Navy Outlet, Nike Factory Store, Forever 21, DSW Designer Shoe Warehouse, H&M and Marshall's. The overall building is 590,000 square feet, with 2,200 parking spaces and room for expansion.



When Kevin Mulcaster isn't managing a large runway project, he's... Wait—when *isn't* Kevin managing a large runway project? Almost never, but he wouldn't have it any other way. Neither would Mead & Hunt's clients. Call Kevin for the buzz on the latest airfield pavement design trends.

Mead & Hunt

kevin.mulcaster@meadhunt.com
971-717-6495



Flight information boards, complimentary shuttle service and in-mall shipping help encourage passengers to shop during layovers.





WHY PAVE WHEN YOU CAN SAVE?



GSB®: Eligible for AIP Funding Under P-608!
**Proven:* 950+ Airfields & 600+ Runways!
 FOD Mitigation / Potential 400% ROI
 For ALL Airport Pavements, Including NEW!



**Doubles
Pavement Life*





Call Us! 800.747.8567 • www.geeasphalt.com

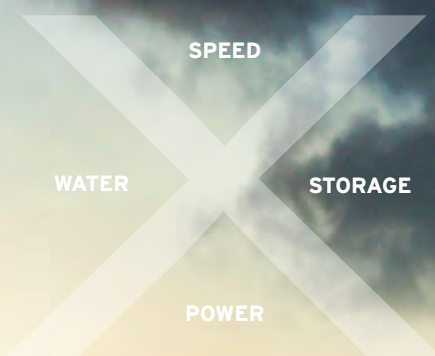
In addition to stores such as Guess, Polo Ralph Lauren Factory Store and Lacoste, the mall contains a marketplace area called SHARE, where smaller merchants sell local, artisan items. Vendors change on a regular basis to provide a steady stream of new products for shoppers.

Regional Benefits

As landowner, EIA focuses on developing its sizable property in a manner that benefits the community as well as the airport, says Keehn. “What we’re doing is creating a very unique sense of place. We have a vision for the entire area, and the mall is the crown jewel.”

As a not-for-profit entity that relies on user fees for operating revenue, developing profitable concessions is an important factor in the airport’s quest to create economic benefit for the region. “If you live in Edmonton and never fly, the airport costs you nothing,” says Keehn. “But if you do take a flight from the airport, you have a user fee. Therefore, every business we have located here that produces non-aeronautical revenue makes us that much more efficient as an airport with lower landing fees and more job creation.”

The airport is utilizing the new outlet mall and other planned development as economic drivers, he explains. “We want people to choose Edmonton to connect through or to fly from. With all the amenities we have at the airport, we are working with our partners to position Edmonton as the airport to use and make it easy to shop, go golfing, go to the horse track or gaming facility or go to COSTCO on the airport grounds. Sometimes the connections might be longer, but now travelers have a reason to connect through Edmonton.” ✈️



BUILT FOR SPEED. MADE TO LEAD.

The most capable runway responder on 4 axles. Carry the most water, fuel and equipment of any ARFF truck with faster acceleration and fewer emissions than ever before. Max customization. Multiple power options. Zero compromise.



oshkoshairport.com

Nashville Int'l Upgrades Fuel Farm to Address Recent Growth

BY JENNIFER BRADLEY



FACTS&FIGURES

Project: Fuel Farm Renovation

Location: Nashville (TN) Int'l Airport

Airport Owner: Metropolitan Nashville Airport Authority

Fueling Consortium: Nashville Fuel Co. (chaired by Southwest Airlines)

Project Cost: \$30 million

Construction: Oct. 2016-April 2017

Project Manager: Argus Consulting

Contractor: Mecon Industries

Fuel Farm Manager: Menzies Aviation

Key Components: New control & maintenance building; completely refurbished fuel tanks; automated gauges, valves, controls for tanks; new hydrant & transfer pumps; stormwater management upgrades; removal of abandoned underground tanks & lines



The traffic profile at Nashville International (BNA) is completely different from what it was two decades ago, and a recent \$30 million fuel farm renovation is helping the Tennessee airport handle the dramatic changes.

When BNA originally built its fuel farm in 1987, connecting flights associated with American Airlines' mini-hub accounted for 80% of the airport's overall traffic. After American de-hubbed in 1997, volume at BNA dropped quickly, and leveled off at about 7 million passengers. BNA would spend the next 16 years recovering; and by 2013, passenger traffic had reached 10.5 million. Since then, the airport has added about 1 million passengers per year, ultimately serving 14.1 million travelers in 2017. In addition,

BNA is now the origin or final destination for approximately 88% of its passengers.

"It took 17 years to grow 3.5 million passengers; and since then, we've seen another 4 million in just four years," summarizes Robert Ramsey, chief operating officer of the Metropolitan Nashville Airport Authority. "Nobody anticipated that kind of growth."

Fortunately, the airport began the design process in 2013 to renovate its fuel farm. As traffic continued to increase at 1 million passengers per year, a project team was in



ROBERT RAMSEY



“We’re not fueling experts, and there were a number of repairs to be completed,” says Ramsey. “The facility was 30 years old and needed to be updated. And, if there is a lack of fuel, that may mean there is not expansion or additional flights. Even though we’re not directly in that chain, we are impacted by it.”

Establishing Objectives

The airport hired Argus Consulting to determine the scope of work needed, and the firm performed a full assessment of the pipeline receiving systems, storage facilities, truck operations, buildings and emergency shutoff system.

Ramsey emphasizes that airports should never skip the assessment stage. “No one wants to be associated with a leak from a fuel farm. It’s bad for the environment and bad for us,” he remarks, noting that environmental regulations had changed throughout the years.

Eight months before the fueling consortium was formed, Menzies Aviation was brought on board to manage the updated facilities. Bryan Hubbard, the company’s general manager at BNA, notes that it took years of legwork to negotiate, project future usage levels, formulate the scope of construction and design, and subsequently complete the engineering and



BRYAN HUBBARD

position to begin construction in fall 2016. With a fully renovated facility on line last fall, BNA is keeping pace with the unprecedented growth it experienced in the last four years.

The timing of the project was fortuitous other ways, as it coincided closely with the end of American’s lease for the fuel facility and the beginning of Southwest Airlines assuming substantially more square footage at BNA. The Nashville Fuel Company, an airline consortium led by Southwest, was subsequently formed to manage the updated fuel facility—with the airport’s blessing and appreciation, notes Shane Thrasher, category manager of Fuel Infrastructure Management for Southwest.

BNA and Southwest agreed that the airlines should oversee the airport’s fueling needs and worked to finalize a long-term lease for the consortium in 2016. A bridge loan from John Hancock provided initial capital while the consortium secured full funding for the project.

At Argus, we think fuel.

When airports across the country think about their fueling systems, they think Argus.



ENGINEERING
ASSET INTEGRITY
PROGRAM MANAGEMENT
BUSINESS SOLUTIONS

design phases. "The planning and resolution phases brought everyone together and really helped create a strong relationship between all parties," he recalls. "Once the projects got started, the work progressed very quickly."

Although renovating the fuel farm was not one of BNA's most expensive projects to date, it was one of the largest and most challenging in terms of the work scope and amount of equipment that was replaced. It also required the team to navigate a high level of complexity, adds Hubbard.

Modern Amenities

Jeremy Dieckhoff, civil discipline manager with Argus, says that the recent top-down restoration of BNA's fuel farm yielded a modern facility that is prepared for the future. All tanks were completely refurbished, stripped and recoated. New technology was implemented through tank gauging, automatic valves, control systems, etc. And all hydrant system and transfer pumps were replaced. As a result, fuel transfer times have been cut in half, he reports. Previously, it took nearly 18 hours to drain a tank.

According to Hubbard, the improvements are incredible. "Where we used to have antiquated systems in place, we now have fully automated equipment," he explains. "This allows



JEREMY DIECKHOFF

operations personnel to better monitor the facility and equipment. The system is more energy efficient than ever and has been designed to fuel the needs of the airlines into the future."

The airport also updated the 30-year-old secondary containment system for the bulk storage tanks by removing and replacing the liners; upgraded the stormwater system; and installed a secondary containment system for truck unloading to facilitate clean up should a spill ever occur. Abandoned underground tanks and pipelines were also removed, another major feature in the project.

Then there's the new operations and maintenance building, which team members consider the gem of the entire project. "Everything is state-of-the-art, and they can monitor all pressures and fuel levels, right in front of them," says Thrasher. "I really can't put it into words. It's like they are in a shiny, new car right now."

Hubbard highlights the ability of operations personnel to change the function of a tank with the click of a button and monitor the temperature of tanks and other details, all from a single room.

"The control center is top-notch; I am very impressed," agrees Ramsey. "It gives a very good picture of what's going on with that fuel farm."

Pond has the expertise to keep your airport running

AVIATION

- Runway, Taxiway & Apron
- Airfield Lighting & NAVAIDS
- Security Systems
- Hangars & Maintenance Facilities
- Air Traffic Control Towers

FUELING

- Fuel System Design & Construction
- Tank, Piping, Pressure Vessel Repair Design
- Cathodic Protection Inspection
- API 653/570/510 Inspections | STI SP001 Inspections

pondco.com **POND**



Bringing Design Concepts to Reality



Responsibly
Improving the
World We Live In

chacompanies.com #theCHAway



Paul Puckli
Market Development Leader
703.625.4889
ppuckli@chacompanies.com

Mike DeVoy
Aviation Market Leader
317.694.9672
mdevoy@chacompanies.com

Ensuring Access

Fuel supply is an ongoing discussion at BNA, and a project is currently underway to speed access to fuel by upgrading filtration systems. Dieckhoff explains that the goal is to receive fuel through filtration and directly into a tank without having to undergo the usual five-day process of settling and re-filtering, a concept the entire design was planned around.

Thrasher says that Christine Vitt, past vice president of Strategic Planning and Sustainability for the airport authority, understood BNA's supply chain constraints and what the system needed to support. "Nashville never really had an on-airport capacity problem, but we had an upstream supply chain problem," he explains. Currently, fuel is received into three tanks and transferred to three others, which then dispense to the airport. Ideally, BNA will be able to pull fuel from any of the six tanks and issue directly to the hydrant system.

As part of the design process, the project team performed a supply chain study, following BNA's fuel all the way back to Houston, where it is offloaded from a barge and then piped to a facility in Atlanta for distribution. BNA is the final jet fuel client on that particular line, notes Dieckhoff. "If this rapid growth continues, can they supply us more fuel?" he wonders. "The



Storage tanks were stripped and recoated.

growth in Nashville is typical of several locations across the country, and fuel supply is becoming a critical issue."

Four years of double-digit growth has caused the airport to work very closely with its airlines to fill fuel quotas and secure enough product. A few airlines continue to haul in fuel by truck while pipeline capacity issues are being addressed. "We all recognize the need and collectively are working to take the next right steps," he adds.

NIGHT TIME SEAL COATING?

YES! ASPHALT PAVEMENT PRESERVATION AT NIGHT!

SAFE PROVEN EFFECTIVE

ASI introduces a NIGHT TIME seal coating treatment!

**NO long term airport closures!
NO lost revenue!**

Designed for Aprons, Taxiways, & RUNWAYS!

FOD MITIGATION! STOP SURFACE OXIDATION! PROTECT & PRESERVE YOUR LARGEST INVESTMENT!

Contact ASI for all your asphalt preservation needs! 801.972.2757

Read about Grand Junction Regional's experiences with Night Time Sealing.

www.airportimprovement.com/article/new-paving-method-accelerates-runway-project-grand-junction-regional



asphaltsystemsinc.com
*Innovative Asphalt
Preservation Experts*



The airport modernized the entire fuel farm, including the pump pad.

Lessons Along the Way

Major growth in passenger traffic was the main challenge during renovations, because it required the project team to reconsider the fuel supply chain while the farm was already under construction. "Our contractor [Mecon Industries] did a great job keeping everything up and running," says Dieckhoff. "It was kind of crazy out there at times, with old and new pipes running right next to each other."

During construction, Menzies had to continue providing reliable service to the airlines, adds Hubbard. "While at times this presented us with major obstacles, it also provided our team members the opportunity to learn the new equipment and features alongside the very people performing the installation—a unique advantage." Employees showed great endurance and determination throughout the challenges and consequently ended up stronger, he adds.

Thrasher concurs, noting that weather delays and having fuel trucks on site daily made scheduling very complex, but everyone stayed focused on the final results.

"It's so important for the airport authority and fuel consortium to work closely together and be aligned on what the vision is for the infrastructure," he comments. "This was a concerted effort, and everyone worked well to make sure the project was a success."

From the airport's perspective, Ramsey is impressed with the new capabilities of the fuel farm and is pleased with the consortium's performance. In short, he considers the recently renovated facility an important asset for the next generation of airport tenants. ✈️

Offering a unique combination of airport planners, airfield design experts, parking specialists, and transportation professionals, Kimley-Horn develops customized solutions to fit your airport's needs.

To learn more, please visit www.kimley-horn.com/aviation or contact our National Aviation Practice Leads:

Carlos Maeda
Orlando, FL
321.438.6647

Pam Keidel-Adams
Mesa, AZ
480.207.2670

J.J. Morton
Chicago, IL
312.212.8487

Kimley»Horn

Expect More. Experience Better.



HOW ARE YOUR MARKINGS?

With an Airfield Assessment, Hi-Lite can help develop multi-year airfield maintenance plans that are designed to save money, extend pavement and marking life-cycles and enhance overall airfield safety.



AIRFIELD ASSESSMENTS FROM HI-LITE...

ANALYZE MARKINGS FOR SAFETY ISSUES AND FAA DISCREPANCIES

ASSIST IN DEVELOPING MULTI-YEAR AIRFIELD MAINTENANCE PLANS

ARE PERFORMED IN SHORT CLOSURES

ARE PERFORMED BY TRAINED AND QUALIFIED TECHNICIANS

WINTER'S COMING!

Harsh winter operations and snow removal can adversely affect the quality and retroreflectivity of your markings. Hi-Lite is now scheduling pre and post winter airfield assessments.

CONTACT US TODAY TO SCHEDULE A DEMO OF HI-LITE'S AIRFIELD ASSESSMENT FOR YOUR AIRPORT.

CALL: 315.583.6111
EMAIL: info@hi-lite.com
VISIT: www.hi-lite.com



Hi-Lite Airfield Services, LLC
18249 Hi-Lite Drive
Adams Center, NY 13606



SAFE FLIGHTS BEGIN WITH AIRFIELD ASSESSMENTS

Charleston Int'l Sweetens Retail Lineup with Kiosk Program

BY NICOLE NELSON



CHARLESTON
INTERNATIONAL AIRPORT

FACTS&FIGURES

Project: Specialty Leasing Program/Retail Kiosks

Airport: Charleston (SC) Int'l Airport

Operator: Charleston County Aviation Authority

Consultant: Jacobsen/Daniels

Contract Vendors: Daddy's Girls Bakery; King Street Cookies; LMM Dolls & Gifts; Mama Chef Cuban Café

Kiosk Size: 16 sq. ft., plus a small, undefined operating area

Operating Terms: 6- or 12-month renewable lease; vendor pays airport base rent of \$500 or \$750 per month (depending on kiosk size) or 11.5% of gross sales, whichever is greater.

Opening Date: April/May 2018



Thanks to a new specialty leasing program that debuted at Charleston International Airport (CHS) this spring, customers can now purchase a sampling of local and regional goodies and gifts at small kiosks inside the airport terminal.

The Charleston County Aviation Authority launched the program to provide short-term, low-risk lease opportunities to help incubate small, independent merchants. Four entrepreneurs with decidedly sweet business concepts are the first participants: Daddy's Girls Bakery, King Street Cookies, Mama Chef Cuban Café and LMM Dolls & Gifts.

Each vendor signed a six- or 12-month renewable lease and pays the aviation authority base rent of \$500 or \$750 per

month (depending on kiosk size) or 11.5% of gross sales, whichever is greater. Kiosk sizes start at 16 square feet.

Airport Executive Director and CEO Paul G. Campbell Jr., who also concurrently serves as a South Carolina senator, is a personal fan of the new kiosks. The very morning of his interview for this story, he visited the Caribbean-influenced Mama Chef Cuban Café for a pastry. "When I was walking by, I just couldn't help myself," he quips, adding that the Cuban sandwiches are "to die for."



PAUL G. CAMPBELL JR.



The new airport concession is an offshoot of a food truck that developed a strong following roving Lowcountry street corners. The owner had also catered airline employee functions.

Campbell has also been known to stop by Daddy's Girls Bakery for an iconic Charleston Chewie, a "melt-in-your-mouth" brown sugar brownie, and purchase artisan souvenirs from LMM Dolls & Gifts.

"King Street Cookies are fabulous for a nice afternoon break," he adds.

Together, the companies are just the kind of local small businesses that Campbell and other CHS executives hope to mentor through the specialty retail program.

Taste of Charleston

The airport hired Jacobsen|Daniels, a consulting firm it has worked with in the past, to assist with development and implementation of

Specialized Aviation Software Solutions

- Gate Management
- Asset/Maintenance Management
- Safety Management
- Part 139 Self-Inspection
- Lease Management
- and so much more!

ProDIGIQ
The Most Trusted Name in Aviation Innovation

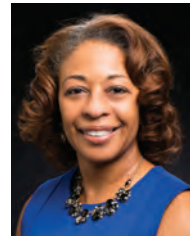
Latest Incident	Latest Hazard	Latest Violation
Location: Stryker Date Reported: 07-20-2015 Reported by: Frank	Location: Ramp Date Reported: 07-21-2015 09:26 Reported by: Frank	Location: Restroom Date Reported: 07-21-2015 10:31 Reported by: Anny

FOR DETAILS
REQUEST A DEMO!
EMAIL RENE.LOPEZ@PRODIGIQ.COM
OR CALL 818-912-2904

See us at ACI-NA | Booth #606



the new retail program. Managing Consultant Carla Nelson Chambers says that the team's overall goal was to bring the local flavor of Charleston and the region to the airport.



CARLA NELSON CHAMBERS

"There was nothing that really said, 'Welcome to Charleston,'" Chambers recalls. "Normally, you get that in food and certain local retail products."

The specialty leasing program was developed in October 2017 to provide that local presence and supplement existing food and beverage concessionaire Delaware North and retail specialist Hudson Group. Chambers describes the complementary kiosk concessions as a win-win because CHS customers gain access to culturally oriented regional products, and small area businesses benefit from the unique customer base only an airport environment can provide.

"This is a pilot program with small, local merchants who have never done business with an airport with all its unique rules and regulations," she explains. "We are working with them to give them and businesses like them the opportunity to succeed in the bustling airport environment."

"Some of the products are really unique to Charleston and others are small and local to Charleston; so it's a win-win for them and the airport customers."

Short-Term, Low-Risk

The kiosks, officially known as retail merchandising units, are positioned in high-visibility locations throughout the terminal and require start-up capital of less than \$15,000. Not surprisingly, the initial request for proposals generated applications from "a plethora of local companies."

Chambers and Sharon McGhee, CHS' lead on Community Relations, conducted the initial outreach. Each of the four businesses that secured a coveted spot at the airport took different paths to get there.

Nathaniel Brown of Daddy's Girls Bakery learned about the kiosk program from a client whose sister runs the Diversity Advancement Alliance, a non-profit organization that helps small minority- and women-owned businesses. "The idea of the program itself intrigued us," he remarks. "It was an opportunity to expand our business, get us more exposure and share our products with the world."

PROVENZANO RESOURCES

Airport RMU, Kiosk & Wall Shop Programs

Create Income from Non-Revenue Common Areas With No Capital Expenditures

Contact: Ross Provenzano, CEO • ross@proresourcesinc.com • 858-488-2734

www.ProResourcesInc.com

Patience was a virtue for Harris Cohen of King Street Cookies. As an established retailer on Charleston’s historically and architecturally significant King Street, Cohen had long been interested in an opportunity to offer his menu of 40 different sweet treats to the nearly 4 million passengers who pass through CHS each year.

“I was told (inline space) had already been leased, but to be patient as there was the possibility of a kiosk program in the future,” Cohen recalls. “We registered on the airport mailing list and applied immediately when the applications became available. Hopefully, our airport location will drive business to our downtown store and our upcoming new store in Mount Pleasant.”

In the case of LMM Dolls & Gifts, Chambers and McGhee visited the company’s popular Charleston City Market location. Struck by the shop’s festive inventory of topsy-turvy dolls, cotton angels, chinaberry seed jewelry and other gift items, Chambers asked co-owner Tyrone Wilson if he would be interested in applying to the airport’s specialty leasing program.

“I immediately said ‘yes’,” Wilson recalls. “We were intrigued with the opportunity of growing our small business. Having two locations would enable us to increase sales and expand our customer base. Additionally, the possibility of one day graduating from a kiosk-based operation to an inline store was equally intriguing.

“However, having a small business is much more than dollars and cents. Taking on new challenges and turning uncertainty into success was the real driving force in our applying for a kiosk location at the Charleston International Airport.”

Wilson’s vision of potentially parlaying the LMM kiosk into a full-fledge store at the airport is actually built into the program structure.

“If at any point these vendors recognize that this is something they really want to do long term, they can grow into an airport concessionaire company,” says Chambers. “That is a huge hurdle because of the cost, but this is a small entryway for these companies to come in.”

Campbell notes that future opportunities will, indeed, be available for local businesses to progress from small, self-contained kiosks to inline stores that operate alongside neighbors such as Hudson’s 658-square-foot Tech on the Go store and Delaware North’s 2,953-square-foot Jack Nicklaus Golden Bear Grill restaurant.

For Campbell, that kind of growth for local businesses is the “frosting on the cake.” ✈️

Formerly
WSP | PARSONS BRINCKERHOFF



**Question
the ordinary
Imagine the
extraordinary
Create the
enduring**

We engineered some of our nation’s tallest buildings and designed aviation facilities from coast to coast.

Our expertise lies at the intersection of the infrastructure and the skylines we have helped to shape.

Partner with us to deliver the airports of tomorrow.

wsp.com/usa

Flagler Executive Relocates & Extends Primary Runway

BY LAURA WAVRA



Flagler Executive Airport (FIN) in Palm Coast, FL, recently completed a \$12.2 million project to relocate and extend its main runway. In doing so, management remedied several safety issues in one comprehensive construction program.

Airport Director Roy Sieger refers to FIN's new runway as its "crown jewel," and notes that the project was completed under budget and ahead of schedule. The project was the airport's largest construction initiative since FIN was built in 1942.



ROY SIEGER

One of the issues corrected by the Runway 11-29 project was a runway/runway intersection hotspot. "The runways intersected right at their thresholds, which was really confusing to pilots," Sieger explains. The original runway also had safety areas that did not meet the minimum FAA standards as well as inadequate runway/taxiway centerline separation to accommodate the increase from Runway Design Group (RDG) II to RDG III. This separation issue, along with property restrictions and restrictions to future development, drove the need to relocate the runway from its original location.

The runway was relocated 400 feet south of its original position and the original runway was reconstructed as a full parallel taxiway.

The runway was shifted to the east and extended 501 feet on the east end on the runway, for a new overall length of 5,500 feet. Other project elements included new LED runway and taxiway lighting, new LED guidance signage, new LED runway end identifier lights and drainage improvements.

The new asphalt runway was paved with six 17.5-foot-wide paving lanes. Each lane was paved from end of blast pad to end of blast, creating a finished product free of transverse pavement joints. Having no transverse joints helps prevent cracking, requires less maintenance and provides a smoother ride for aircraft, notes Sieger. This method also accelerated the paving process, as crews were able to place significant tonnage each day. During construction, the original runway remained open for use to minimize operational disruptions.

The FAA contributed \$9.3 million in grant funding and Florida Department of Transportation contributed nearly \$2.7 million in grant funding toward construction of this project. Flagler County paid the remaining balance, mainly by using funds generated by the operation of the airport.

The new and improved runway enables FIN to handle a larger volume of air traffic and eliminates prior safety concerns. The longer runway also allows corporate jets to take on more fuel when flying out of FIN, thus increasing revenue potential.

Preliminary Projects

Before breaking ground on the runway relocation and extension, FIN completed roughly \$5 million in preliminary projects. In addition to performing traditional site prep, airport officials needed to acquire additional land to meet FAA runway protection zone standards. In the end, FIN purchased 117 acres of land from a private owner for \$1.9 million.

On the environmental mitigation front, personnel from Environmental Science Associates excavated 250 gopher tortoise burrows and relocated 70 gopher tortoises to a local receiving bank.

Planning was also a major prerequisite of the project and central to its success. Designs for the Runway 11-29 project were part of a master plan developed in 2003.

Massive Undertaking

Construction began early February 2017 and was completed by mid-December the same year. The original Runway 11-29 was decommissioned after Sieger and pilot John Rising performed a final ceremonial takeoff in a T-6 Texan. "The asphalt machine followed right behind us," Sieger muses.

He highlights the installation of a box culvert as a particularly noteworthy accomplishment. In just 10 weeks, crews completed the dewatering and installation of bypass pipes; dammed and drained the existing canal; backfilled the canal with imported material; and installed, inspected and commissioned the culvert for use. The new structure is a 734-foot-long, 10-by-6-foot precast concrete box culvert with cast-in-place concrete headwalls and wingwalls. Each of the structure's 162 precast concrete sections is 4½ feet long, with 14-inch thick walls. Each of the 30,000-pound sections was individually delivered to the site and set in place by a 400-ton excavator. On average, crews placed 10 sections per day. After all the precast sections were in place, inspected and approved, crews completed the cast-in-place headwalls and wingwalls.

FACTS&FIGURES

Project: Runway Extension & Relocation

Location: Flagler Executive Airport (Palm Coast, FL) Runway 11-29

Cost: \$12.2 million

Funding: FAA 74%; FL Dept. of Transportation 24%; Airport 2%

Notice to Proceed: Feb. 6, 2017

Substantial Completion: Dec.15, 2017

Contract End Date: Jan. 27, 2018

Full Airport Closures: 3 nights (out of 350 calendar days)

Resident Engineering Services & Construction Management: GAI Consultants; Hoyle, Tanner & Associates

Environmental Mitigation: Environmental Science Associates

General Contractor: Halifax Paving

Design: C&S Companies

Drainage Sub-Contractor (Box Culvert): 4C's Trucking & Excavation

Electrical Subcontractor: H.L. Pruitt Corp.

Runway & Taxiway Light Mfg: Astronics

Runway End Identifier Light Mfg: Astronics

Runway & Taxiway Sign Mfg: ADB Safegate

**We Make Brushes.
It's What We Do.**

UNITED
ROTARY BRUSH CORPORATION

800.851.5108 U.S.A. www.united-rotary.com 800.469.6292 Canada

Installing a concrete box culvert in a previously water-filled canal was a key component of the runway project.



The overall runway project required the excavation of 340,000 cubic yards of material. During a critical 50-day phase of the project, crews worked 24 hours per day for the first seven days to move 150,000 cubic yards of material on site. During this critical 50-day phase, an average of 50 workers were on site at any given time working on all aspects of the project to keep the work on schedule.

Despite the scope of the project, FIN experienced minimal impact to air traffic, and the airport was closed just three nights for grooving and pavement markings. "We still maintained a high level of operations," Sieger reports.

What If Your Paint Striper Was This Versatile?



TrailRunner

- Simultaneous 2 Color Painting Capability
- 110 Gallon Paint Capacity
- 10 Minute EZ-On/EZ-Off Bed
- Single Operator

EZ-LINER

800.373.4016 • sales@ezliner.com • ezliner.com

Onsite Demos Available

Veteran Team

Dan Nickols, the resident engineer from GAI Consultants who managed the project, had worked with Halifax Paving on three previous taxiway projects at FIN. The shared work history helped develop a good rapport, promoted effective communication and ultimately contributed to the success of the Runway 11-29 project, says Sieger.

Jack Thompson, GAI's Florida director of aviation, notes that having Nickols on site each day as resident engineer was also key. Nickols' knowledge of the design intent made him an invaluable resource, Thompson explains. Scott Croll of Halifax Paving agrees, describing Nickols' presence on site as extremely helpful.

Like Nickols, Croll had years of work history with the airport and was on site every day. During this project, his crews set and subsequently broke company records for 2-inch asphalt paving in a single work day: 3,610 tons and 3,612 tons on successive



DAN NICKOLS



JACK THOMPSON

days. The company also recorded perfect pay factor test results: all percent within limit specifications (PWLs) for quality and consistency were 90% or higher.

"I assembled a great team, a very cohesive team, that was able to get a lot done in little time," Sieger says. The team held weekly meetings to help foster a culture that pushed the project ahead of schedule. "We always had a good two-week look ahead, and they were on track all the time," he recalls.

Weather conditions during the project were a mixed bag. The first half of 2017 was unseasonable dry by Florida standards, but Flagler County received 72 inches of rain by the end of the year—its largest recorded annual total. The elevated rainfall total was the result of an active hurricane season and the landfall of Hurricane Irma, which shut the project down for five days. Despite heavy rainfall in the latter part of the year, and the aftermath of Irma, crews still completed the project under budget and ahead of schedule. ✈️



SCOTT CROLL



Doesn't everyone want an ACE up their sleeve?

With the new ACE3, you'll benefit from better performance, easier maintenance and more functionality than previous distributed control products.

New ACE3 ups the ante for distributed control equipment

- All-in-one touchscreen provides easy access to exactly what you want
- Easy configuration using the local touchscreen, no laptop required
- Compatible with any CCR manufacturer
- Backwards compatible with our previous distributed control versions: ACE and ACE2. ACE3 will also easily interface to or replace any Liberty DCMU units
- Up to 8x more I/O capacity than the ACE2



adbsafegate.com

Sea-Tac Int'l Partners With AMAC to Support Diversity Measures

BY MIKE SCHWANZ



FACTS&FIGURES

Project: Hosting 2018 AMAC Annual Airport Business Diversity Conference

Host Airport: Seattle-Tacoma Int'l Airport

Location: The Westin Seattle

Number of Attendees: 1,000 (approximate)

Number of Exhibitors: 40 (approximate)

Key Benefits: Reinforces SEA's strategic plan of increasing diversity; brings together stakeholders from all areas of aviation industry; educates local groups representing women and minorities about new opportunities available at airport due to renovation project.

From Aug. 21-25, 2018, Seattle-Tacoma International Airport (SEA) will serve as the official host for the annual Airport Business Diversity Conference, the flagship event of the Airport Minority Diversity Council (AMAC). Airport officials are pleased with the strong registration numbers—and the opportunity to advance SEA's long-standing goals of providing more opportunities to women, minorities, veterans and small-business owners.

"Hosting this event is a great opportunity for us to continue to strengthen our long-time relationship with AMAC," says Lance Lyttle, SEA's managing director. "We have had an excellent



LANCE LYTTLE

working relationship with AMAC over the years, and we share their goal in providing more business opportunities for women and minorities within all departments of the airport."

"We thought this year's theme, Inspiring Possibilities, was especially appropriate for our host city, Seattle, which is one of the most diverse cities in the country," says Krystal J. Brumfield, AMAC president & CEO. "It is also home to some of the most successful and creative companies in the world, such as Amazon, Microsoft and Starbucks."

Brumfield is pleased with the healthy mix of industry professionals expected to



KRYSTAL J. BRUMFIELD



PHOTO: TWICE MEDIA PRODUCTIONS



PHOTO: TWICE MEDIA PRODUCTIONS

Airport officials worked closely with AMAC on all aspects of planning the conference, from suggesting speakers to helping plan social events. “Once AMAC asked us to host this event, we were very happy to oblige,” says Luis Navarro, director of the office of social responsibility for the Port of Seattle. Navarro also serves as the co-chair for the conference, along with Dawn Hunter, the senior manager of the



LUIS NAVARRO

TranSystems
EXPERIENCE | Transportation

BRINGING THE HORIZON CLOSER

From the roadway to the runway, retail shops to executive lounges, TranSystems provides design and engineering solutions to create a positive transportation experience for travelers, no matter the destination.

CONTACT
Greg Wellman | grwellman@transystems.com

attend. “We will have many owners of women- and minority-owned businesses, as well as representatives of Fortune 500 companies, aviation, hospitality, travel and logistics, energy, retail, transportation, telecommunications, finance and banking. Federal, state and local government agencies also are represented,” she adds.

The timing of this conference worked out well for the airport, because Sea-Tac is in the middle of a major renovation that will add approximately 50 new businesses in the Airport Dining and Retail (ADR) category. Many current leases also will be expiring in the next two years, creating more opportunities for newcomers. “We have asked AMAC to help us in recruiting for this ADR redevelopment program,” Lyttle says. “We have been working really hard to reach out to minority and small businesses to apply for leases.

“Hosting the AMAC conference is a way for our local businesses to get exposed to opportunities, not only at the airport but also with other airport businesses around the country. We reached out to local small businesses here in Seattle to let them know about AMAC, and encouraged them to attend this year’s conference as well as its other seminars offered at other times of the year,” Lyttle continues.

airport dining and retail program. “Providing more diversity is one of the priorities in our Strategic Plan,” Navarro says. “We thought it would be appropriate for women and minorities not only from here but from all over the country to attend.”

“Above all, the conference will provide the opportunity for people to get to know each other. A lot of business can get done through personal relationships,” Navarro adds.

PortGen Program Targets Many Categories

Besides the AMAC conference, the airport provides many opportunities for small businesses to operate on the property. The PortGen program (an acronym for Port of Seattle, Small Business Generator) is a series of seminars offered especially to owners and managers of small businesses, according to Lyttle. “We try to introduce people on how to do business with the airport. We target small businesses in the local area, as well as retail suppliers.”

According to Navarro, a wide variety of topics are offered. “Some of our seminars target construction people and contractors,” he says. “We will bring in speakers from the airport’s procurement department to give insights on best practices on preparing a RFP. We often invite people who operate other small businesses, who provide valuable, real-world

input. Legal issues are covered from speakers from the airport’s legal department.”

The airport is proactive in seeking attendees to these PortGen workshops. “We have a database list of nearly 1,000 people,” Lyttle says. “We narrow that down, and try to target certain groups for a given workshop.”

The PortGen workshops are limited to only 50 people, for a more personal atmosphere. If demand warrants it, more workshops on the same topic will be added, Lyttle explains.

SEA also is very bullish on promoting kiosks, according to Lyttle. “We have a kiosk program for small businesses. We will build them the walls, and offer them a six-month trial to begin. This offers the business owner a chance of starting out without a huge long-term commitment. If the business prospers, we eventually hope to sign them to a long-term lease,” he says.

AMAC Conference Expands Seminars

The 2018 AMAC Conference is expected to draw approximately 1,000 attendees and 40 exhibitors. “We are very happy with the expected turnout, and with the quality of our workshops,” Brumfield says. “This year, we will offer more than 20 informative

A PARTNER YOU CAN TRUST.

Airports choose RS&H again and again because we deliver on our promises. We help you solve the challenges of today and achieve your vision for tomorrow. From the entrance road through the terminal to the end of the runway, **we do it all — all for you.**

rsandh.com

RS&H

ARCHITECTURE | ENGINEERING | CONSULTING



and inspirational workshops, featuring presentations from leading and subject matter experts. For the first time this year, we created four tracks, so attendees could focus on the subject areas most pertinent to their professions. The tracks are Concessions; Architecture, Engineering and Construction (AEC); Professional Development; and FAA/Government.

“Besides our workshops, we intend to release the results of a research study we conducted in partnership with the American Association of Airport Executives (AAAE). We wanted to get the answers to several key questions, such as: Where are the jobs? Where are the opportunities? Earlier this year, we sent out the survey to about 200 airports, and are optimistic we will get a good response. We believe this study will be a valuable resource not only to our members but to many other segments of the aviation industry,” Brumfield says.

Although the annual conference is its biggest event of the year, AMAC hopes to use the conference to encourage attendees to participate in several other educational programs it provides throughout the year. “We are really promoting management training through our AMAC Academy, which is a series of webinars open to members and nonmembers,” Brumfield says. “These sessions cover a wide variety of subjects. For example,

we recently offered webinars on ‘Patents and Trademarks’; ‘Cyber Security’; and ‘Professional Development Training.’”

The Seattle conference should complement many of AMAC’s core goals, Brumfield suggests. “This year’s conference reinforces our organization’s mission, which is to promote the inclusion of minorities and women in contracting opportunities and professional development throughout the aviation and aerospace industries,” she elaborates. “It also strengthens our value to the aviation industry—that we are the ‘go-to’ source for diversity questions within the profession. Both individuals and airports come to us for information. We maintain and update a job bank that lists specific jobs, and also provides a chance for airports to list jobs that are open.”

Above all, Brumfield believes AMAC’s annual conference will provide representatives from all segments of the aviation and aerospace industries an opportunity to meet face-to-face and get to know each other. “Getting people we represent (Minority/Women/Disadvantaged Business Enterprises (MWDBEs)) a chance to interact with airport operators, government officials and corporate executives is always a positive thing,” she concludes. ✈️



ALLIANCE



Uniting People and Place through Design

Industry leaders in Terminal Planning and Design

Tel +1 612-874-4102 www.alliance.us Gerald R. Ford International Airport, Grand Rapids, MI



What Makes a Great Website?

These days, the internet is the first place many passengers check when looking for information about parking, concessions and other ground-based details regarding air travel. Good or bad, an airport's website acts as its face and leaves an impression on customers.

"We wanted to make our site the primary source of information for our customers," says Kevin Bumen, director of airports for San Luis Obispo County Regional Airport (SBP). "We've tried to put everything on the site that we can think of, like where to park, or if the flight is on time. We want it to be completely comprehensive when planning, traveling or picking up a passenger."



KEVIN BUMEN

The website proved especially important when SBP started construction on a new terminal in 2015. Bumen and his team wanted the site to be a repository of useful information and used the landing page to keep travelers updated about the project. Before tweaking the website, the airport received a significant number of phone calls with questions. Now, many travelers find the information they need online.

"Because of construction, parking and circulation were the primary areas for which people needed information," says Bumen.

All airport websites should include weather, official Notice to Airmen updates (NOTAMs) for incoming and outgoing pilots, and flight information, says Jason Buck, director of



JASON BUCK



BY KRISTIN VANDERHEY SHAW

technology for Mojave Air and Space Port (MHV). Aside from that, each airport has a responsibility to include information pertinent to the unique needs of its community, he adds.

“Mojave was the first facility to be licensed as an inland spaceport and we have a unique set of information on our site,” says Buck. “The community likes to know what is going on. We encourage everyone to attend board meetings and participate, and the information must be kept up to date on our site.”

The most important topics to passengers at Vancouver International Airport (YVR) are

FACTS&FIGURES



Project: Website Development/Improvements

Location: Vancouver Int'l Airport

Site Designer: Habanero Consulting Group

Platform: Sitecore



Location: Mojave Air and Space Port

Consultant: Internal staff

Platform: Weebly

Location: San Luis Obispo County (CA) Regional Airport



Site Map Design: Sixel (no longer in business)

Platform: WordPress

Ongoing Management & Maintenance: Airport personnel

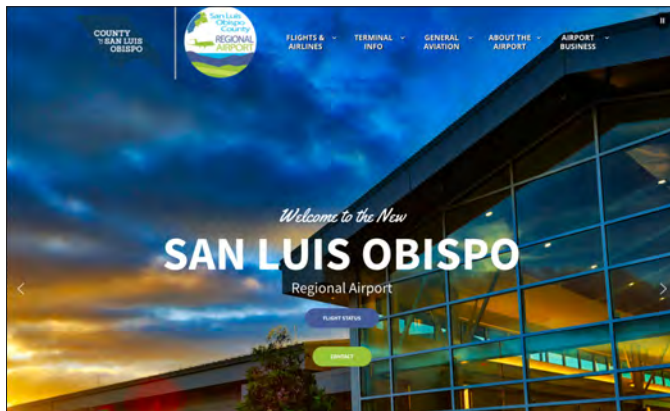


You can rely on EJ to provide reliable drainage and access solutions for your next airport project.



Visit ejco.com or call 800 626 4653
Made in the USA

135
Years
Since 1883



flight information and details about shops and restaurants, says Senior Communications Specialist Jon Rees. The airport uses color-coded bars on the homepage to clearly display critical information such as NOTAMs.



JON REES

Governance Structure Matters

The team at SBP looked at a variety of websites from small, medium and large airports for inspiration, and found that site quality doesn't necessarily correlate to the size of the airport.

Bumen was particularly impressed with the user-friendly nature of San Francisco International's site. "We saw some airport sites that had less intuitive navigation, and we thought it was important to have a two-click goal to get where customers wanted," he says.

In his opinion, the empowerment and flexibility of the website team in regard to governance structure is a crucial factor in website quality. In part, Bumen's perspective is based on his previous experience developing a website at Truckee Tahoe Airport, a bi-district general aviation airport that gave staff the broad independence to create a site that would serve the airport and its customers.

"At San Luis Obispo, our site is not hosted within the county's website, so we have more autonomy to do what we wanted to do," he adds.

In late 2015, the site was finalized by SBP's consultants at Sixel (now defunct) and turned over to the airport. Currently, one operations specialist and an administrative staffer share responsibility for updating the website with new information. Typically, they manage the site six days a week during business hours.

"Between the web and social channels, that's a lot to manage for a small staff," Bumen remarks. "During our terminal opening, we had people monitoring the social channels all day, and now it ebbs and flows. We are an airport that offers service 22 hours a

Dear Future,
I will determine my own destiny.
My education will prepare me for anything you throw my way!

BE FUTUREPROOF
—GUARANTEED*

vaughn.edu
ENGINEERING | TECHNOLOGY | MANAGEMENT | AVIATION

Vaughn College
OF AVIATION

* For eligible full-time students. See full details at vaughn.edu.

veoci

It is time to break free from:
paperwork and incremental module costs

Other Systems vs **VEOCI**

- Safety Management System (SMS)
- Part 139 Inspections
- Work Order Management
- Emergency Management
- Lease Management
- Asset Management

Truly affordable, all-in-one operations system for any size airport

Contact us for a free demo!

203-814-1710 | veoci.com | info@veoci.com

day, but we don't monitor the social channels 22 hours a day."

Rees agrees that governance structure matters when it comes to creating a website that mirrors the needs of an airport's customers. YVR's site was ranked No.1 in North America by Airports Council International—North America (ACI-NA) last year.

"Vancouver International Airport is unique, just like the region surrounding it—not just in terms of its award-winning reputation, but in the way that the airport is operated," says Rees. "As a community-focused and financially independent company, the way in which our airport operates and governs allows us to support and reinvest in our communities, which includes investing in emerging technologies."

Mirroring a Sense of Place

As a general aviation airport and FAA-certified spaceport, MHV has extra requirements for its website. Formerly known as the civilian aerospace test center, MHV was the first U.S. inland airport to be licensed for horizontal launches of reusable spacecraft. In addition, the airport can be used for commercial jet storage because of its arid weather conditions.

"Nobody really knew what we were doing out here and what we had to offer, and we wanted to bring that out on our site," explains Buck. "We are both a general aviation airport and spaceport, which many Californians don't realize. We have 3,000 acres of property to accommodate flight test and operations."

Three private space companies using aircraft for horizontal launch intend to operate from Mojave, and Buck wanted to highlight that. Civilian flight testing is another area the website addresses.

"Anyone can come out here, build an airplane, and test it in our airspace," he says. "We have an unusual airspace. If you can dream it and construct it, you can fly it out here."

Buck and his team capture most of the imagery for the website themselves, collaborating with the rest of the staff to ensure they are representing the most current aspects of the facility. "I think our photography makes us stand out," he says. "We try to take great pictures, and that's the first thing people see on our site. If a homepage is boring, viewers will move on. But if they see something that is 'Whoa, amazing!' they will stay and come back."

On SBP's site, most of the facility images, especially those of the new terminal, are professional photos provided by project partners. Staff members capture images for day-to-day updates to save time and money.

The visuals on YVR's website reflect the pride that the airport and city take in their local



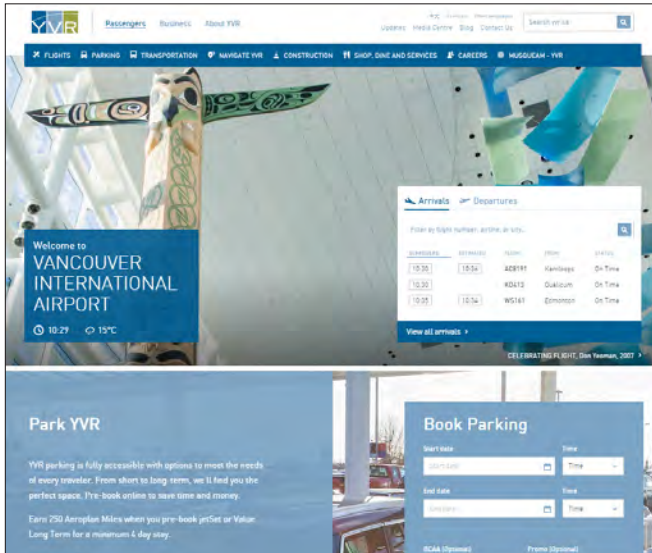
history and people. "Our top two objectives were to convey a sense of place and provide our passengers with easy access to desired information," says YVR Senior Communication Specialist Chris Devauld. "We incorporate art and colors, connecting British Columbia to the world. Our imagery is matched to the region and our native tribes, and we change out the visuals regularly."



CHRIS DEVAULD

As a leading partner in the aviation industry, Ross & Baruzzini has provided airport operations, security and technology consulting for more than 200 airports worldwide. We remain committed to providing superior service while meeting the creative vision of our clients and providing an unmatched passenger experience.

P: 314.918.8383
 E: info@rossbar.com
 www.rossbar.com



The site also highlights that Skytrax has ranked YVR the best airport in North America for nine consecutive years.

Choosing a Platform, Staying Current

A plethora of platforms are available for website creation, with new players entering the game regularly; *PC Magazine* identifies up-and-comers Wix, Squarespace and Simvolvy as strong options. Deciding which is the best fit can be intimidating.

SBP worked with website project manager/designer Kyle Elliot from Sixel to design its site map in conjunction with the airport team. The ability to maintain and manage the site in-house was a key priority. Bumen and the project team chose to build the new site on WordPress, an open-source platform often used by bloggers for its simplicity and all-in-one interface.

“On our previous website, the content management system was very difficult to work with, and it was outdated,” says Bumen. “With limited staff resources, putting the right amount of input for the right amount of output is important. As soon as you start falling behind on content, it snowballs pretty quickly. If you go months without updating it, it can be very difficult to catch up.”

MHV started to build its new site about three years ago. Personnel opted to steer away from the WordPress platform, which they had been using for several years, in favor of Weebly.

AAIE

Hartsfield-Jackson
Atlanta International Airport.

Learn how to apply environmentally friendly MEGAtrends and better understand the impact to your airport at the **11th Annual Airports Going Green Conference** November 4-7, 2018 Atlanta, Georgia

Airports Going Green
aaae.org/green

The Weebly platform, often used by teachers and schools, is known as a WYSIWYG editor—short for “what you see is what you get.” The portal features drag-and-drop interface instead of manual coding, which requires more technical skills.

“We found a template in Weebly that matched our color scheme and built it ourselves,” Buck reports.

While happy with MHV’s current site, the team is also open to finding new ways to make it easier for customers.

“The only foreseeable change is updating graphics and logos,” says Buck. “I registered with Google and Bing and added key words to search engines to make our site easier to find. Customer feedback has been positive. When we get critiques, we tweak things accordingly, as appropriate.”


YVR chose Sitecore, a customer experience management platform based on Microsoft’s ASP.NET framework. Flexibility, functionality and integration capabilities were key selection criteria. The project team also focused on finding a platform that was adept at serving cellphones and tablets, as more than half of YVR’s website traffic comes from mobile devices.

“It had been a good chunk of time since we had updated our site, and we wanted something more intuitive,” says Rees. “We wanted a site based on how the passengers actually use

the airport, including what they search for and what they need. Then, we created a hierarchy in Sitecore and made it mobile compatible.”

Devauld was responsible for implementing the new site in 2015, and worked closely with the design firm, Habanero. “We consulted with every department to ensure all needs were met and tried to understand the website from different perspectives,” he says. “The team created an information hierarchy and based the list of features on priority.”

The result is a site that includes real-time flight information, options to book various airport amenities such as parking and lounges, and other passenger information in English, French and Mandarin. The airport has received very positive feedback about the site’s multi-language capabilities, reports Devauld.

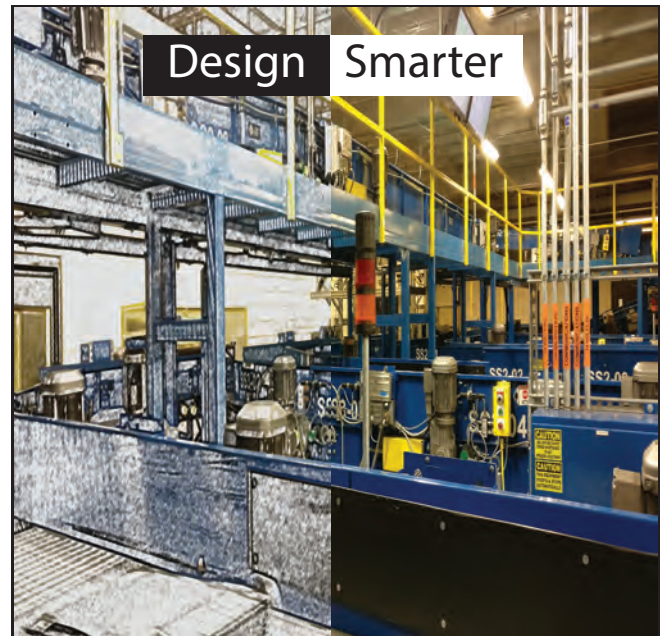
In addition to fully optimizing the site for mobile use, the communications team at YVR is proactively addressing recent worldwide controversies about user privacy. “We are adding [European Union] regulations on information gathering now,” says Rees. “It’s not mandatory, but we feel it’s important to be the best we can be. We’re always trying to improve the passenger experience, like updating the passenger guide and looking at analytics to prioritize.” 



Becker 505 specializes in marketing and design for the aviation industry. Let us create your corporate identity, advertisements and marketing campaigns so you can get back to what you do best — running your business!




CALL OR EMAIL US TODAY FOR A FREE QUOTE AND CONSULTATION
 INFO@BECKER505.COM | 608.205.2788 | BECKER505.COM



3751 New York Avenue, Suite 140 • Arlington, Texas 76014, USA • T. 817-557-5600
 www.vtc.us.com

Growth - A Case for Change

 It seems that everywhere we go, at every conference, and in every meeting with an airport, we talk about unprecedented growth. The International Air Transport Association (IATA) released a report earlier this year showing that global passenger traffic rose 7.6% in 2017. Both SITA and IATA have published reports predicting that global passenger travel will double within the next 20 years.

Although a lot of that growth is elsewhere, the United States is the second largest individual market. Passenger traffic in Florida increased 10% this year and is expected to keep on growing. As the number of passengers and their baggage doubles, how can airports keep up? We already have infrastructure and funding challenges. If we simply build larger terminals with longer concourses, walking distances will increase and the passenger experience will suffer. At some point, building bigger won't work; we also need to build smarter.

Infrastructure also takes time... five to seven years. Many airports are expanding currently or plan to in the near future. Will it be enough? Maybe... if we couple current expansion plans with technology advancements, off-site processing and slightly slower traffic growth due to rising oil prices.

Other aviation groups seeing the growth forecasts are working toward building consensus around an industry vision for the future. Their vision includes increased focus on effective data use, automation, machine learning and some yet-to-be-determined level of off-site processing. They see the passenger journey becoming more customized and personal to the point that a number of airport processes we take for granted



CHRIS NORTON

Chris Norton is chief executive officer and an owner of VTC, a company that specializes in designing baggage handling and checked baggage inspection systems. She also serves as board chair of the International Association of Baggage System Companies.

today will become exceptions in the future. We have already seen this to some degree as an increasing number of passengers bypass the ticket counter for on-line check-in and self-tagging kiosks. Many within the industry predict that the travel experience will change even more radically and extend way beyond the terminal. I urge everyone to visit nextt.iata.org for a fuller picture of this vision.

TSA is currently focusing on checkpoint improvements because passenger growth has exposed the twin constraints of infrastructure and current screening technologies. What do many passengers see? Long lines and wait times. Are they shy about registering complaints? No. Checked bags don't complain...yet. Will that change when a bag can "tell" you and the airline where it is and that it has been waiting past a given threshold of time for security screening? Is that crazy? Given our technological future...probably not.

Creating strategic plans for growth and delivering appropriately sized airport infrastructure is a big challenge. Not only are there unplanned vagaries in the market, airlines often treat their forecasts and future plans as closely guarded secrets to maintain a competitive advantage. How do we as an industry develop more transparency, or at least a common language, that will allow us to trust each other enough to plan for the future together?

If growth is a case for change, what needs to change? In the short-term, many aviation companies are exploring how to leverage technology and/or new processes to make better use of current infrastructure. Digitization is a large part of that. We also need to understand how off-site processing is going to change airports.

In addition, we need to embrace technology and champion development and experimentation. In order to better utilize technology, stakeholders need to be willing to share data and information with each other. When we find ways to cooperate as well as compete, the industry as a whole will benefit. As part of that process, we need to work with our federal partners to ensure that over-regulation does not stymie technology innovation or further hinder the time-to-market through arduous procurement and certification processes. In our tiny corner of the industry, we are seeing a change in baggage handling because we are finally at a tipping point in the United States where alternative technologies seem more beneficial than frightening.

Finally, we need to work together as an industry toward a shared vision for the future. To do that, we need a better consensus regarding long-term demand, what we are building toward, and when that will come. ✈️

NOW PARTNERING WITH THE NATION'S BUSIEST AIRPORTS



Transporting passengers and staff in BYD's all-electric buses and shuttles at Atlanta's Hartsfield Jackson, Kansas City and Los Angeles International Airports.



www.byd.com | [1.800.BYD.AUTO](tel:1800.BYD.AUTO) | fb.com/bydcompany | twitter.com/bydcompany | *Build Your Dreams™*

Bobby Hill | [213.290.8955](tel:213.290.8955) | bobby.hill@byd.com



Get a grip!

Are you getting your hands around all of the dollars being wasted on energy? Independent research proves that the MOVIGEAR® from SEW-EURODRIVE can reduce your startup and operating costs by 20-30%. In fact, some installations actually yield 50% or more!



MOVIGEAR®

MOVIGEAR® combines the gearing, permanent magnet motor (IE4), and electronics into a single hygienic unit. Or if you prefer using your existing gear units, the DRC Electronic motor (IE4) is the solution. MOVIGEAR® or DRC...either way, you save big bucks!



DRC Electronic Motor

SEW
EURODRIVE

— Driving the World —