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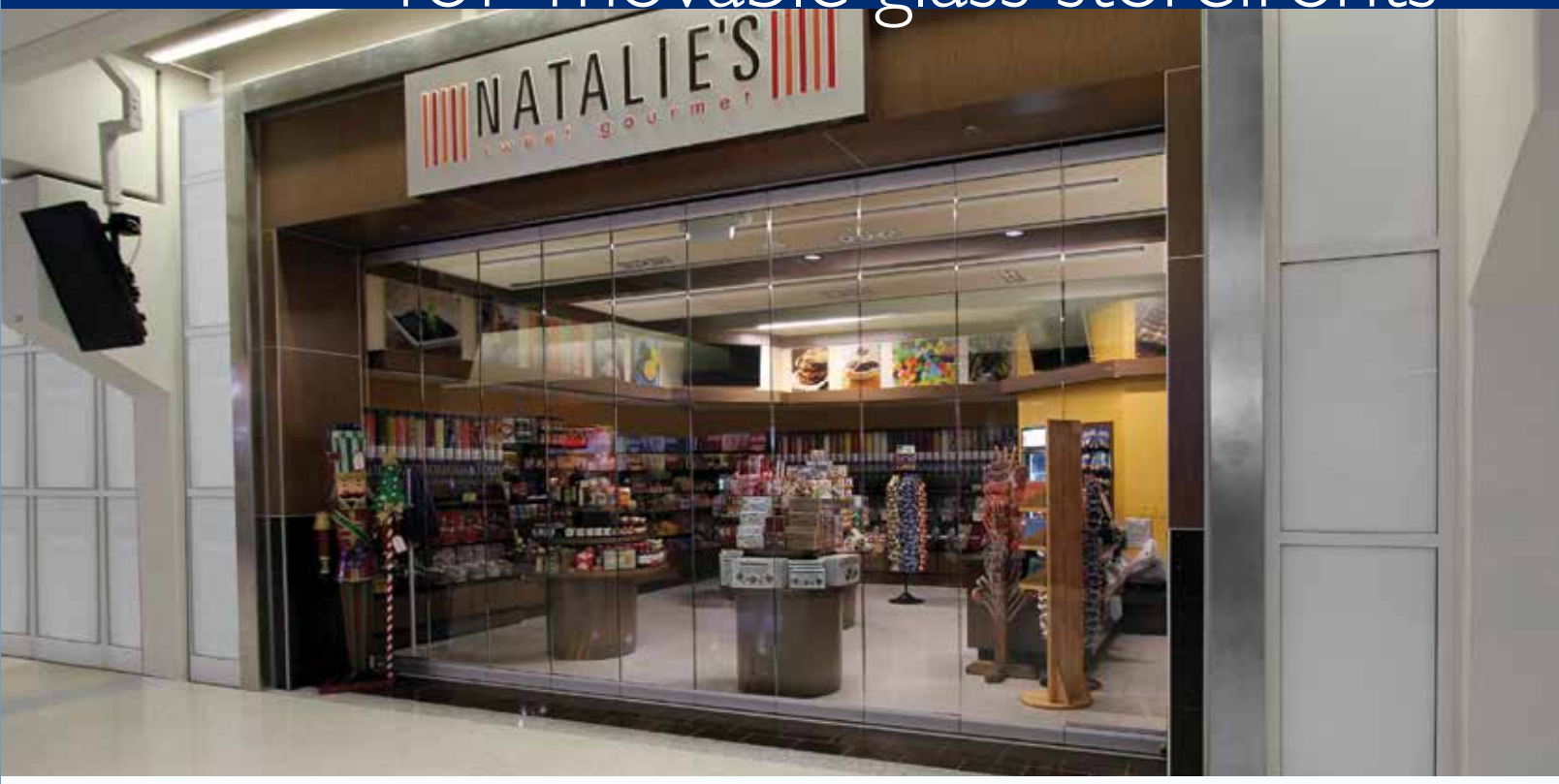

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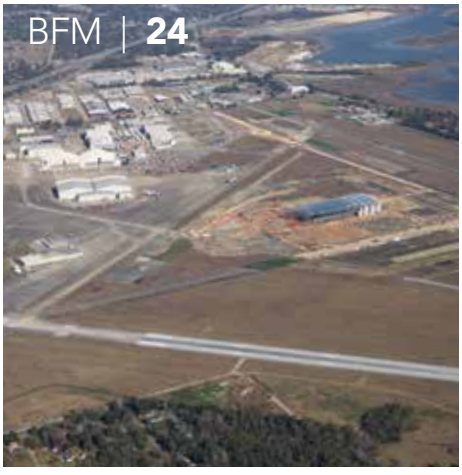

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AIRPORT IMPROVEMENT published bi-monthly by Chapel Road Communications LLC, 3780 Chapel Road, Brookfield, WI 53045. All statements, including product claims, are those of the person or organization making the statement or claim. The publisher does 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.

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AirportImprovement

Confessions of a Technology Junkie

I love technology. It's the great enabler. Publishing a magazine is so much easier and efficient now that we download files rather than hand-assemble wax-coated strips of text and paper photos. And our online edition and website provide additional sources with even more content.

But keeping current is a major challenge. Technology's shelf life is much shorter than buildings' or runways'; and it changes at such a high speed that we never have a final product. Pushing the limit of what's possible is continuous. Case in point: Las Vegas' McCarran International, featured on Page 22.

McCarran led the charge of free airport Wi-Fi. Now, thanks to continuous improvement, it is bringing high-quality, free Wi-Fi outside the terminal to passengers sitting in aircraft and employees working on the ramp.

Is the technology at *your* airport scoring points with passengers and business partners? Wi-Fi that restricts access to just a few sites is a negative, as are time limits and requiring users to navigate through too many clicks to connect.

While we're talking about technology: What about your website? All airports have them; but does yours serve the needs of those visiting it? Websites like Greater Moncton International's (www.cyqm.ca) provide content for anyone who does business with, or uses, the airport. They include basics like mailing and street addresses, maps and airline information as well as more specific material about RFPs/project work. They also list their various department heads with email address links next to their names, eliminating the need for users to write an email to an anonymous recipient and hope for a reply. In this era of airport competition, do you really want to hide from your customers and business partners?

The technology you employ is as important as your facilities. Look closely and ask yourself if technology is helping or hurting you do business.

Cheers,

Paul

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Project: Snow & Ice Removal

Location: Minneapolis–St.Paul Int'l Airport

Airfield Maintenance Staff: 110 (primarily equipment operators & mechanics)

Airfield Pavement Maintained: Approx. 28 million sq. ft.

Equipment Fleet: 21 runway plow trucks; 15 front-mount rotary brooms; 8 multifunction vehicles; 18 snow-blower trucks; 19 sanding trucks; 8 deicer trucks; 15 gate tractors; 25 wheeled loaders; 12 skid-steers

Avg. Snow & Ice Events: 40/season

Deicer Products: New Deal Sodium Formate/Acetate Blend; Cryotech NAAC & Liquid Deicers

Materials Used/Season: 240,000 gal of liquid deicer; 65 tons of solid deicer; 7,000 tons of sand

Recognitions: 6 Balchen/Post Awards for Outstanding Achievement in Airport Snow & Ice Control (1982, 1986, 1991, 1992, 1997 & 2001)

Equipment Vendors

Equipment Supplier: MacQueen Equipment Group

Plow Trucks: Oshkosh Corp.

Plows: Wausau Everest; Little Falls Machine; Frink; Degelman

Front-Mount Rotary Brooms: Oshkosh Corp.

Brooms: M-B Companies

Runway Deicers: Tyler; Batts; Hagie; Epoke

Wheeled Tractors: John Deere

Wheel Loaders: Caterpillar

Sand Trucks: Sterling Ford; Freightliner

Sand Spreaders: Swenson

Snow Blowers: Oshkosh Corp.; R.P.M. Tech; Provonost

Multifunction Vehicles: Oshkosh Corp.

Skid Steers: Bobcat; ASV

Snow Melters: Trecan Combustion

Minneapolis-St. Paul Int'l Offers Peek Inside its Snow Removal Playbook

By Ken **Wysocky**

With average snow accumulations of 4½ feet per winter, snow removal is serious business at Minneapolis-St. Paul International Airport (MSP). Crews plow, blow, broom and deice more than 28 million square feet in airfield pavement alone — the equivalent of a two-lane highway running from the Twin Cities to New Orleans.

How serious is serious? The Metropolitan Airports Commission (MAC), which operates MSP, has invested about $55 million in snow removal and deicing equipment for the airport. Costs associated with snow removal (excluding equipment repairs and personnel expenses) account for fully 82% of MSP's total airfield maintenance budget.

Crews operate a fleet of more than 140 pieces of equipment. And in an average winter, they apply 240,000 gallons of liquid deicer, 65 tons of solid deicer and 7,000 tons of sand.

But the centerpiece of MSP's war against the white stuff is less tangible than equipment or materials yet equally important: a snow-removal "playbook" designed to avoid or minimize flight delays and diversions.

The airport already had procedures in place for 30- and 60-minute runway closures. But two years ago, field maintenance workers told management they could do better.

Paul **Sichko**

So they literally went to a chalkboard and diagrammed "plays" and timed various strategies to determine what could be accomplished within various time increments. As a result, MSP now can implement twice as many closure options for the airport's three primary runways, depending on how much time is available, Sichko reports.

The result? A perfect batting average for the last two years, reports Paul Sichko, assistant director of operations, maintenance and airside operations. "We haven't missed or had to extend a coordinated runway opening time during a snow event."

Last year, the airport served more than 33 million passengers, with nearly 413,000 takeoffs and landings.

Deep Bench

To fully understand MSP's playbook, it's helpful to understand the resources MSP deploys to handle the 40 "snow events" it faces during an average winter. The airport's field maintenance department includes 110 full-time employees: 76 maintenance workers and heavy-equipment operators, 20 repair shop personnel and 14 administrative staffers.

In addition to snow removal, field maintenance workers also perform surface repairs, maintain parking ramps, repair security gates and fencing, and manage the airport's turf and landscaping. "The field maintenance staff is essentially a public works department with year-round duties," notes Sichko.

Given the harsh winters, snow removal accounts for much of their time. "With the exception of leased space, MAC employees conduct all airside snow removal operations, including snow removal from aircraft parking gates, at both terminals," he details. "MAC also is responsible for snow removal along airport-owned public roadways, while sub-contractors remove snow from parking ramps and surface parking lots."

During winter, the airport augments its staff with an additional 16 maintenance workers and laborers who log 40-hour weeks for 22 weeks. MSP retains another 40 heavy-equipment operators on a temporary basis for day-of-storm work, adds Sichko.

Crews use a large fleet of equipment to clear roughly 6 million square feet of runway, 9.7 million square feet of taxiways, 10.3 million square feet of ramps and 2.4 million square feet of deicing pads. The fleet includes 21 runway plow trucks, 15 front-mount rotary brooms, eight multifunction vehicles, 18 snowblower trucks, 19 sanding trucks, eight deicer trucks, 15 gate tractors, 25 wheeled loaders and 12 skid-steers.

Play Execution

Unlike many airports, MSP does not run a 12-hours-on, 12-hours-off schedule during snow events. Instead, it takes an all-hands-on-deck approach, which means there could be as many as 108 employees working at a time. As such, MSP provides room-and-board perks during snowstorms, with sleeping quarters for up to 300 people, shower and locker room facilities, and a full commercial kitchen — all in the airport maintenance building.

MSP's playbook enables large contingents of crewmembers and equipment to work in concert, explains Sichko. To maximize readiness, workers rehearse various "plays" numerous times, with dry runs during non-winter months.

"The best analogy is a football play," he says. "We call the play and pick the option we want to execute. We'll have up to 23 vehicles on the (main) runway, and they all know exactly what to do and how much time they have to do it.

"And we don't audible," he adds. "We don't pull an Aaron Rodgers and change the play at the line of scrimmage."

After two years of development and refinement, MSP's playbook contains numerous strategies for a range of weather and traffic scenarios. "For our largest runway (about 10,000 feet long, with roughly 2 million square feet of pavement), we can do a 60-minute full closure, which is usually done overnight and involves clearing exit points to all 21 connecting taxiways," Sichko explains. "Then we have a 30-minute closure that provides 14 runway exit points; a 20-minute closure that provides about six exit points; and a 10-minute closure in which we clean only the runway – a straight shot with only entrance and exit points."

Crews use different snow removal methods for different parts of the airport. On runways, where speed counts, plows form a wing (also known as a conga-line formation) to clear most of the snow. Then rotary brooms clean down to the pavement, snow blowers clear windrows, deicers apply potassium acetate and trucks spread sand, in that order.

At terminal gates and ramps, and on the airport's 53 acres of deicing pads, plays focus on volume. For ramps, crews use tractors to push snow away from the building toward the rear of aircraft at gates, where front-end loaders with box plows move it to holding areas.

Snow collected airside is temporarily stored on grass islands adjacent to runways and taxiways until it can be hauled to designated storage areas. Sometimes snow melts in the storage areas; usually, it has to be taken to in-ground tanks that use 40° water and agitation to melt the snow. Trios of melters powered by natural gas (with a total capacity of 120 tons per hour) are located at eight different airside locations. Eight 40-ton-per-hour melters are located in and around the airport's six major parking structures. In addition, the airport has a portable 60-ton-per-hour melter that's used airside and landside as needed. In total, the airport has 33 snow melters at its disposal.

Snow that doesn't go to the melters can last a surprisingly long time. "A couple years ago, we still had snow piles here in July," relates Sichko.

Coordination & Communication

Executing a runway closure at MSP involves communicating with no less than seven other organizations and agencies: The Metropolitan Airports Commission; MSP air traffic control tower; Minneapolis Terminal Radar Approach Control (TRACON); Minneapolis En route Center (part of the network of regional Air Route Traffic Control Centers run by the FAA); Delta Air Lines (the

Crews are responsible for clearing more than 28 million square feet in airfield pavement alone.

airport's largest carrier); Delta-MSP gate control; and Delta's operations control center in Atlanta.

"All these parties come together on a conference call to coordinate every closure," Sichko explains. "We assess how many airplanes are in the air and determine how much time we have to plow. Our goal always is to avoid diversions to other airports."

The cost of delays is also a factor. The FAA estimates that on average, delays cost airlines roughly $75 per minute per airplane.

Scott **Schulte**

But it's also about safety, emphasizes Scott Schulte, an MSP maintenance worker who operates snow removal machines. With 30,000-pound vehicles driving up to 26 mph just 30 feet apart in a wing formation, there's little margin for error, he points out.

"There's no freelancing allowed, because collisions can occur if someone is in an area they're not supposed to be in," Schulte explains. "During our snow removal operations, the runways are the safest places at the airport, because we know exactly where every piece of equipment is at all times. That's important, because visibility often is limited … maybe down to as little as 50 or 100 feet with all that snow kicking up in the air."

Time Trials

Sichko cites advanced equipment and strategically located deicing pads as two important factors that enhance MSP's ability to execute its playbook.

Thanks to hydraulic technology, snow removal machines now operate faster and move more snow in critical situations when time is tight, says Dan Gage, co-owner of MacQueen Equipment Group, which supplies the Metropolitan Airports Commission with snow removal equipment. Gage highlights the ribbons on snow blowers as an example: "Today, snow blowers offer six different speeds … if the truck goes 35 miles per hour, the ribbon can turn at 35 miles per hour.

"Years ago, we only had single-speed blowers, which were much slower … so if you pushed too fast, the blower's capacity couldn't match the speed, and you ended up with a lot of snow blowing past the blower," he continues. "But multiple-speed blower heads allow you to match blower speed with the travel speed of the vehicle."

Brooms now rotate faster, too – up to 575 rpms compared to 300 a decade ago. That enables the trucks they're mounted on to go faster without sacrificing efficiency, he explains.

The advent of multifunctional vehicles – trucks that carry a plow on the front while towing a broom – has also reduced removal times. "You have much more flexibility now in attacking various levels of snowstorms," Gage relates.

MSP located its deicing pads away from the terminal to help keep traffic moving at the gates.

Deicing Stats

MSP has six deicing pads that collect and contain the deicing fluid that airlines or contractors spray on aircraft. In total, the pads can accommodate 37 aircraft simultaneously.

"They're all located at the end of runways and were specially constructed to capture the deicing fluid, which contains glycol – a substance we want to keep out of storm drains," Sichko explains. "We do allow airlines to deice planes at the gates. But in that case, we plug the storm sewers and pump out the deicing fluid later."

He points to the pads' large capacity as a key factor in keeping airplanes moving during winter storms. "And because the deicing pads are located away from the terminal buildings, we don't clog our gates (with airplanes getting deiced)," he adds.

"We've never deiced 37 all planes at one time, but the end-of-runway deicing pad volume is critical to our success," he points out. "We learned years ago that the inbound rate of airport arrivals cannot exceed the outbound deicing rate. If only 20 planes can be deiced per hour, and we land 40, simple math tells you we'll have airplanes everywhere on the field – and that just doesn't work."

Fighting Spirit

What *does* work, however, is the teamwork and collaboration between MSP's management and maintenance crews, Sichko and Schulte agree.

"Our management team has come up through the ranks," Schulte observes. "All the managers understand the capabilities of the crews and our equipment, which fosters a relationship of trust and respect and a real sense of team spirit. We get excited about a big snowstorm. We think of ourselves as snow fighters."

"It's always better if you can get creative and find better ways of doing things," Sichko adds. "And that's exactly what this team does."

As for the future, Sichko and Schulte say that the snow removal playbook is a work in progress that's constantly evolving. Could 15- and 25-minute closures be possible?

"There's always room for improvement, especially as new (more productive) equipment emerges," Schulte says. "Eventually, we'd like to have eight plays in the playbook for each runway … we're working on it."

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Queen Beatrix Int'l Adds a Touch of the Tropics to Terminal

By Victoria **Soukup**

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Project: Terminal Facelift

Location: Queen Beatrix International Airport (Aruba)

Cost: $15 million (USD)

Airport Operator: Aruba Airport Authority

Cooperation Agreement Partner: The Schiphol Group

Project Design: ArteSano Design Studio

Architectural Metal Products: Móz Designs

Passport Kiosks: BorderXpress Automated Passport Control

Kiosk Provider: Innovative Travel Solutions (an independent business unit of the Vancouver Airport Authority)

Concession Area Lighting: Brand van Egmond

Seating: Zoeftig; Sandler Seating; Jangir Maddadi Design

Carpeting: Shaw Contract

Ceiling: Armstrong Contract

Tensile Structures: MERO Germany; FabriTec Structures

Key Benefits: Increased concessions revenue; positive customer response to aesthetic changes

For years, Aruba's Queen Beatrix International Airport (AUA) didn't reflect the vibrancy of its Caribbean locale. These days, the terminal is awash in ocean blues, foliage greens and the warm yellows and oranges of an island sunset.

A $15 million facelift, predominantly interior, delivered the dramatic changes. With the eight-year project 95% complete last year, officials are basking in customer compliments like vacationers sunbathing on the island's emblematic beaches.

Airport management decided to undertake the changes after completing Beatrix 2000, a major expansion that included construction of two new terminals and the renovation of an existing terminal. While the expansion succeeding in increasing AUA's capacity to handle tourist traffic for the popular Caribbean destination, officials felt that the airport was too plain and some elements, such as high-gloss pink tile and walls, were simply unattractive.

They also wanted to increase passenger spending by improving AUA's concessions program. The end result is a terminal splashed with tropical colors and a new mix of retail and food/beverage offerings that is bringing in more revenue.

Expand Then Refine

James **Fazio**

AUA Chief Executive Officer James Fazio applauds the upgrades. "We continue to work toward an airport environment that includes modern processes with a warm Caribbean atmosphere," he comments. "What the team has accomplished with the design concepts in our main concession area has been a major step forward and consistent with our overall objective."

Upgrading the airport's appearance came as a natural progression of the airport's growth, notes Giovanni van Wijk, support


Giovanni **Van Wijk**

unit manager of airport development for the Aruba Airport Authority. After the Beatrix 2000 expansion was completed in 2004, the Aruban government directed AUA to focus on improving passenger experience and increasing revenues, explains van Wijk.

"They thought the best strategy for long-term improvement would be to connect with a larger group," he says. "And because we are Dutch passport holders, and we have a strong relationship with the Netherlands, it was decided we would work with The Schiphol Group."

The resulting cooperation agreement between Schiphol and the airport authority "provides for an exchange of intellectual property and technical expertise." In essence, it's a consulting contract with a twist. Per the agreement, Schiphol appoints the airport's chief executive officer and provides expertise in the form of staff consulting, audits, periodic policy and procedure reviews, and other technical expertise the airport authority deems necessary for the safe and efficient operation and development of AUA.

About the same time the airport authority put Schiphol in place, it also hired conceptual designer Claudia Ruiz-Vasquez, of Aruba-based ArteSano Design Studio, to oversee the cosmetic renovation of the airport.

On the concessions front, AUA moved retail and food/beverage offerings post-Security to encourage more foot traffic. It also boosted the volume of local vendors and changed to a one-operator-per-concept model to reduce duplication among concessionaires.

"This has created a more effective and efficient management of the concession program and increased the footfall of the retail and food and beverage areas," van Wijk reports. "We are now forcing all the passenger flow through the primary screening location; and then right afterwards, passengers are in the shops and the main concession area."

The first year after changes were made, concession revenues rose 13% and have increased steadily almost every year since, reports van Wijk. He attributes a slight dip between 2012 and 2013 to regulation changes and queue forming issues. Figures from 2014 are not yet available.

Outdoor Influences

To create a festive interior, Ruiz-Vasquez enclosed columns, walls, ceilings and fixtures at departure gates and in Customs areas with architectural metal products. She also added new carpeting and flooring tile, as well as new


Claudia **Ruiz-Vasquez**

Concessions were moved beyond the security checkpoint and given a new look.

seating in the main concession area and hold rooms, to further improve the ambience of the plain concrete building.

"I wanted the airport to be Caribbean in style," Ruiz-Vasquez explains. "And it was extremely important to bring the vibrant tones of our island into the terminal."

She highlights the brilliance and impact of the architectural metal, designed and manufactured by Móz Designs, as a key factor. "It almost creates light itself," she explains. "It has a dimensionality; it's not just dull, flat metal. Aruba, as a nation, is Caribbean and yet extremely modern and connected to Europe and the U.S. Using Móz materials added that modern look to the project."

The specially designed metal columns, signs, archways, entry canopy and soffits were fabricated from solid-core, recycled aluminum and shipped by rail, boat and air to Aruba. Ruiz-Vasquez selected vibrant hues as a nod to the island's natural palette.

Tripp **Sandford**

"Aruba's all about light and color," notes Tripp Sandford, executive vice president of Móz. "Designers who specify our product and materials come to us because of the uniqueness of what the material itself evokes as far as mood, transparency and its play with light. In this case, the overall goal was to create a sunny, cheerful atmosphere and holiday theme with our materials. The blues and greens reflect the ocean, and some of the warmer tones look like an Aruban sunset with effects of yellows, reds, oranges and rich copper."

Columns in the concessions area were covered with a warm gold aluminum that has a transparent, multi-dimensional effect. Using Móz pre-engineered CC100 Series columns and Direct Apply columns reduced the airport's cost, Sandford notes. Metal sheets were pre-formed to precise diameters so installers could easily glue two column halves to the concrete; and metal trim was used to hide the seams. "It was a cost-effective solution," Sandford says. "And because they are affixed to the concrete, they are very durable."

The chandelier lighting in the concessions area, supplied by Dutch company Brand van Egmond, is another standout feature. "They are not just spot lights; they are a form of artwork," notes AUA's van Wijk.

In the baggage area, nearly 40 columns were clad with solid-core aluminum panels in different tones. "We used a special palette in Baggage so you start seeing the interplay of colors from the island when you enter this area," Ruiz-Vasquez explains. "Initially, the columns greet the passenger with a soft hue of a champagne color, then copper, and, at last, the vibrant red that draws you into the sun of Aruba."

Visual Play

Ruiz-Vasquez softened and mitigated the high ceilings in the Customs area with eight hanging mobiles, each about 10-by-16 feet, suspended at various heights and angles. "I wanted to do something that would have impact and yet bring the area to a more human scale," Ruiz-Vasquez explains. The visual variety of the display, also created with Móz materials, adds warmth and interest to a previously sterile environment, she notes.

The large entryway leading from Baggage Claim to the "meet-and-greet" area was another design challenge. Because the airport was designed at two different times by two different groups, the entryway did not have a clear visual connection to the building, explains Ruiz-Vasquez. As a fix, she specified a bright red Móz-designed wall archway that enlarges the doorway with a 200-square-foot frame. The woven texture of the adornment is a local reference. "Basket and hat weaving are still popular crafts in the Caribbean," Ruiz-Vasquez explains. "And the fiery red ribbons reflect the heart and passion of the people of Aruba."

The terminal's entry canopy was also clad in facetted and tapered Móz metals: a 1,700-square-foot blue fascia and a 4,800-square-foot green soffit supported by brown "tree trunk" columns. The panels were applied directly over the existing structure and attached with mechanical fasteners.

"The color composition is a reference to our island environment," says Ruiz-Vasquez. "The sapphire blue sea and sky, the sage green tropical foliage of our swinging palm trees and the Brazilian cherry tree columns symbolize the tree trunks that define the destination."

Columns, counter fronts and flight monitors in boarding areas also received facelifts with Móz materials in vibrant hues. Gates are color-coded to assist with wayfinding.

Looking Forward & Back

Mid-project changes caused AUA's comprehensive interior facelift to go about 30% over the original $12 million budget; but reserve funds were available to cover the additional costs, reports van Wijk.

"Because the airport had been experiencing growth, we have managed to keep our expenses in line," he explains. "That allowed us to have additional cash flow which was used for this project."

Passenger counts increased 9.5% between 2013 and 2014, he details. All major U.S. carriers serve the island, as well as KLM, other international carriers and local airlines. Southwest Airlines began service to the island from the mainland last summer.

With a few elements of the facelift still in the works, van Wijk considers the project's overall goal complete. "An entire atmosphere was created with the warm and vivid colors of Aruba," he comments. "We are very pleased with the feel of the airport and know it has been recognized by others, especially by passengers. The cosmetic makeover of the airport has enhanced the total experience of all passengers."

That said, the popularity of the island and the volume of passengers using AUA is creating new problems. "Because of the growth we have experienced, we must now improve our processing facilities – Check-in, gates, Arrival, Departure and Immigration," chronicles van Wijk. "We want to continue giving our passengers the same service levels and reduce the congestion at check-in and gates during the peak hours."

Efforts to address AUA's growing passenger numbers have, in fact, already begun.

In December, the airport installed 10 new BorderXpress Automated Passport Control kiosks to expedite clearance procedures for U.S.-bound passengers and reduce wait times and missed connections.

Three groups of travelers can use the kiosks: U.S. passport holders and U.S. lawful permanent residents (LPRs); Canadian passport holders; and visa-waiver travelers with Electronic System for Travel Authorization (ESTA) from 38 countries not requiring U.S. entry visas.

AUA's Fazio expects the kiosks to help U.S. Customs and Border Protection (CBP) officials in Aruba streamline the enforcement process. In the first month alone, an estimated 54,000 passengers used the kiosks.

"This is the first step in a much larger project that will conclude in the coming years to streamline the passenger flow at the airport," Fazio explains. "This strategic purchase will benefit the nearly 60% of total departing passengers bound for U.S. destinations from Aruba by reducing wait times at U.S. CBP pre-clearance and ultimately facilitate a more positive outbound passenger experience."

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Winnipeg Int'l Adds Common-Use Lounge

By Thomas J. **Smith**

Winnipeg Richardson International Airport (YWG) is partnering with Plaza Premium Lounge to add a common-use lounge to its lineup of customer services. Scheduled to open in April, the 3,200-square-foot facility is the Manitoba airport's first lounge without a specific airline affiliation.


Pascal **Bélanger**

YWG awarded a 10-year lease for the facility to Plaza Premium, a common-use lounge operator based in Hong Kong, after meeting with various other management firms. "We formed this venture as a partnership from the get-go," explains Pascal Bélanger, the airport authority's vice president and chief commercial officer. "Plaza Premium checked all the boxes in terms of the type of high-quality service and atmosphere we wanted for customers of the airport."

The lounge overlooks YWG's entry atrium, with three floor-to-ceiling glass walls. Liberal use of wood, metal and glass give the lounge a "five-star finish" with a very open feel, explains Brent Bowes, the operator's Toronto-based vice president of business development. Cost to finish the space was reportedly in the "high six-figures."

Lounge amenities include a tended bar, a dinning area with hot and cold food, private work pods and a general seating area with electrical outlets for charging electronics at each seat. Total capacity is about 80 guests.

A central location allows the new lounge to serve domestic and international customers alike. Segregated transborder passengers, however, do not have access to the facility due to the location of YWG's U.S. Pre-Clearance facility. "Of our 3.7 million passengers, half-a-million go transborder; so the vast majority of our customers will have access to the lounge," Bélanger details.

Entry fees to the lounge, which include food and alcoholic drinks, are $40 for two hours, $50 for three hours and $70 for six hours — consistent with Plaza Premium's other Canadian locations, notes Bowes. Visitors who belong to certain airline or other loyalty programs do not pay separate per-entry fees.

WINNIPEG AIRPORTS AUTHORITY

factsfigures

Project: Common-Use Passenger Lounge
Location: Winnipeg (Manitoba) Richardson Int'l Airport
Operator: Plaza Premium Lounge
Lease Agreement: 10 yrs
Size: 3,200 sq. ft.
Build-Out & Finish Contractor: Three Way Builders
Designer: Kinney Chan & Associates
Lounge Capacity: 80 people
Entry Fees: $40 for 2 hrs; $50 for 3 hrs; $70 for 6 hrs
Amenities: Tended bar; hot & cold food; private work pods; general seating area with electrical outlets for charging electronics in each seat

Division of Duties

YWG approached construction of the independent passenger lounge differently than other tenant spaces within its three-year-old terminal building. Instead of turning an empty shell over to Plaza Premium, the airport hired a contractor, Three Way Builders, to perform interior build-out work.

Plaza Premium's Hong Kong-based architect, Kinney Chan and Associates, designed the space; and then hired YWG's build-out contractor to install wall and floor coverings, move in furniture and add final decorative touches.

"The look and feel of the lounge is driven by Plaza Premium," Bélanger notes. The airport took the unusual step of assuming the lead role during "hard construction" because Plaza Premium is an international operator that had not worked in the Manitoba market before, he explains.

"We had a greater understanding of the requirements and challenges because it's our building," Bélanger elaborates. "We also have detailed knowledge of the building codes. It made sense to divide the work this way."

Managing the bulk of construction for the project demonstrates the airport's investment in the long-term success of the lounge, he adds.

An Independent Option

When plans began for the new Plaza Premium Lounge, YWG already had an Air Canada Maple Leaf Lounge in operation; but airport officials wanted to offer customers a facility that doesn't require a specific airline affiliation or annual membership.

"Air Canada represents about 38% of our business, leaving a wide segment of customers without the ability to get into a lounge," Bélanger explains. "That was the motivation in seeking a private lounge operator. We're always looking to improve the customer experience."

The soon-to-open facility at YWG is Plaza Premium's 12th in Canada. (The private operator also manages lounges at Vancouver International in British Columbia; Edmonton International in Alberta; and Toronto Pearson International.)

"We have been seeking expansion opportunities in Canada," reports Bowes. "The more locations we have in Canada, the more network breadth we have to serve (our partners') customers, clients and passengers."

Currently, Plaza Premium has partnerships with American Express and other banking institutions, along with 20 air carriers, including WestJet, Transat, Air North and Alaska Airlines.

The lounge operator's airline partnerships were an important factor when YWG was awarding the lease for its facility, notes Bélanger. The operator has relationships with a number of airlines that the airport would like to serve its region, he explains.

Currently, YWG is served by nine carriers – seven Canadian and two U.S. – with international service limited to the United States and Mexico.


The Plaza Premium Lounge at Winnipeg Int'l is scheduled to open in April.

Growing Trend?

According to Plaza Premium executives, airport authorities around the world are seeking common-use lounges. "A lounge linked to them enhances the guest experience," says Bowes.

Plaza Premium began in Hong Kong 16 years ago and expanded into Canada in 2004 with a lounge at Vancouver International. These days, the private company operates 120 lounges in 29 airports.

Bowes reports the company is interested in getting into other Canadian airports and would "certainly bid" if a tender was issued. To date, the company does not have any U.S. locations but is "actively looking" for such opportunities.

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McCarran Extends Wi-Fi Access to Ramp & Beyond

By Mike **Schwanz**

McCarran INTERNATIONAL AIRPORT

factsfigures

Project: Expanding Wi-Fi Access

Location: McCarran Int'l Airport, Las Vegas

New Areas Served: Airside ramps; rental car facilities; taxi queues; passenger pick-up/drop-off zones

Initial Development/Installation: About 5 years

Cost: Included in budgets of other construction projects

Key Benefits: Increasing customer service via free Wi-Fi access outside the terminal; boosting the efficiency of airport, airline & other employees working on the airfield & elsewhere outside the terminal

Ten years ago, McCarran International Airport (LAS) in Las Vegas became one of the first U.S. airports to offer passengers free Wi-Fi inside its terminal. Now, the airport is beaming Wi-Fi outside, to passengers sitting on its ramps in arriving and departing aircraft.

Samuel **Ingalls**

Better yet, the Wi-Fi service is free and fast, reports Samuel G. Ingalls, assistant director of aviation, information systems at LAS.

"When we first installed the free Wi-Fi inside the terminal in 2005, it got glowing reviews," Ingalls recalls. "But ever since then, we have worked hard to continually keep pace with new technology, to offer more connections at higher speeds."

Specifically hoping to expand its envelope of coverage, LAS looked outside the terminal building, to areas used by taxis, rental cars and private vehicles picking up passengers.

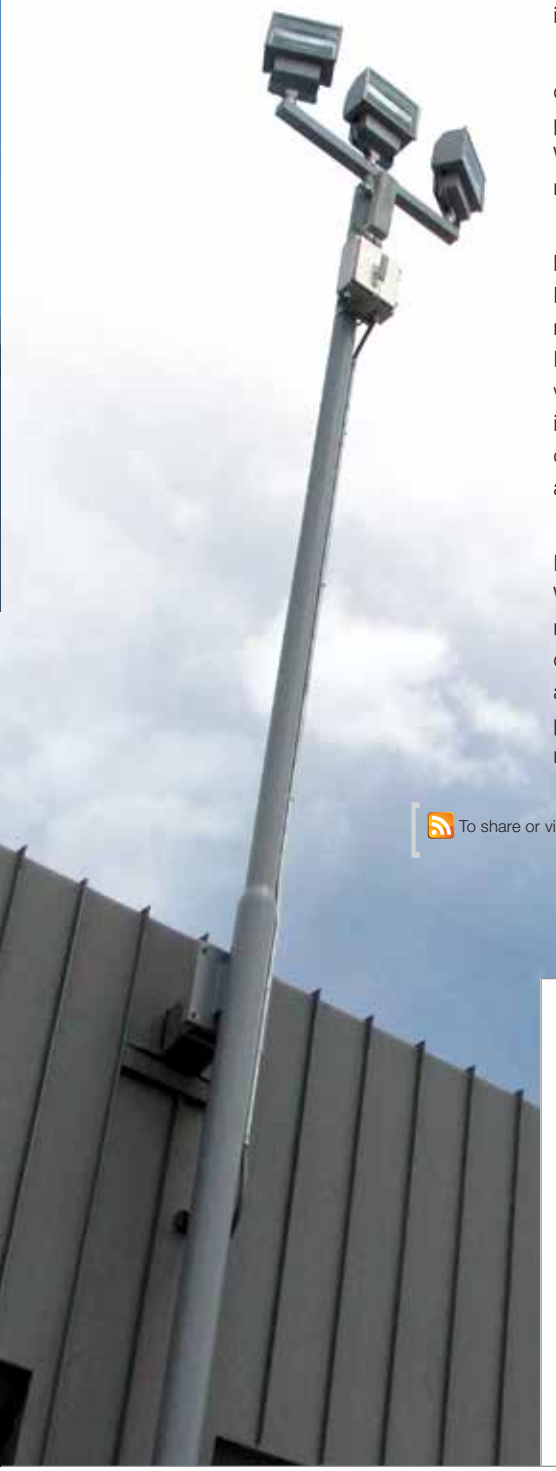
"We also got feedback that complimentary Wi-Fi outside the main terminals would be important for many of the airlines and their staff, such as baggage handlers, wheelchair assistants, maintenance staff and flight crews," Ingalls explains. "More and more, airline and airport operations are being pushed to tablets and smartphones, so carriers need Wi-Fi throughout the airport — both inside and outside."

It subsequently took the airport five years to fine-tune its system and install Wi-Fi access points in a manner that provides good signals for all of its target user groups, he adds.

Getting it Right

One challenge facing Ingalls' Information Technology Department was ensuring reliable connections. At some locations, the Wi-Fi signal would work fine with an aircraft at the gate, but the signal would weaken when fuel trucks, catering vans, lavatory cleanup vehicles and baggage carts surrounded the aircraft.

It took a lot of trial-and-error to figure out where to place the antennas, and to determine what signal strength and antenna types were needed, recalls Ingalls. "Our staff spent a lot of time around the ramp areas, and even boarded aircraft to test signals. We also solicited feedback from air carriers," he relates. "By the time we started construction on our new Terminal 3, which opened in June 2012, we had a pretty good idea about where to place the Wi-Fi antennas for maximum effectiveness."



Today, LAS has several Wi-Fi access points at each gate. Some antennas are elevated on high-mast lighting poles; others are set below jet bridges. Sometimes, the strongest signal for an aircraft parked on the ramp may come from an adjoining gate, Ingalls notes. "Today, for the vast majority of passengers, the signal is strong — even in the back of the plane," he reports.

As part of the airport's plan to continually upgrade its system, LAS is preparing to install additional high-mast Wi-Fi antennas during an upcoming LED ramp lighting project.

Unlike some airports, LAS doesn't limit how long customers can use its Wi-Fi connection or restrict the bandwidth needed to stream videos, notes Ingalls. If a passenger is stuck on an airplane waiting to arrive at a gate, no password is needed to access the Internet or check emails; the signal is automatically available, he adds.

"Customer service is part of our DNA," Ingalls stresses. "If a passenger has his Wi-Fi cut off after 15 minutes, it leaves a negative impression that is not worth the cost. In addition, if an aircraft is holding at the gate due to a weather delay, passengers need good Wi-Fi service to make other arrangements."

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Power Users

LAS' newly expanded Wi-Fi system passed a tough test in January, when the giant International Consumer Electronics Show attracted approximately 170,000 tech-oriented attendees to Las Vegas. "I saw many people around the airport with at least three devices. And we didn't get any negative feedback from these attendees, who used the Wi-Fi system both inside and outside the terminal," reports Ingalls. "I considered that a very positive sign."

Mobile Airport Authority Leads Efforts to Develop Brookley Aeroplex & Surrounding Community

By Kristin Vanderhey **Shaw**

factsfigures

Project: Aeroplex Development

Location: Mobile (AL) Downtown Airport

Runways: 14-32 (9,618 ft. long); 18-36 (7,800 ft. long)

Cargo Facility: 48,000 sq. ft. of sorting, distribution and warehouse space

Mixed-Use Industrial Park: Mobile Aeroplex at Brookley

Size: 4 million sq. ft. of industrial space on 1,650 acres

Total Employment: 4,700+

Key Tenants/Customers: Airbus Assembly Line; VTMAE; FedEx, Signature Flight Support; Continental Motors; Airbus Engineering; Star Aviation

Current Construction: $600 million Airbus facility for A320 assembly; $30 million Taxiway Realignment & Widening Project

Taxiway Funding: 90% FAA; 10% Mobile Airport Authority

Aeroplex Development Team

Solicitation, Selection & Design Mgmt: Hoar Program Management; Hatch Mott MacDonald

Airfield Consultant of Record: Michael Baker Int'l

Stormwater Pipe System Construction: Hosea O. Weaver & Sons

Other Service Providers: Honeywell; Brasfield & Gorrie; Asphalt Services; Clark Geer Latham & Associates; B. L. Harbert Int'l

Other Stakeholders: State of Alabama; city of Mobile; Mobile County; Alabama Power Co.; other utility providers

Roger Wehner, executive director of the Mobile Airport Authority, keeps the photograph of a child he barely knows on his desk as a reminder of the authority's mission. The young boy was playing in an old park that used to be part of the Brookley Air Force base. These days, the park serves a lower-income community adjacent to Mobile Downtown Airport (BFM), and the airport authority is helping renovate it.


Roger **Wehner**

"Frank was there with his mom when we were doing some on-site research … and he was tracing the path of a 747 with his finger," Wehner explains. "(His photo) reminds me of who we're working for here. When we're quibbling about facades (or other details), I tell myself: It's about this kid, Frank. It's the fascination of youth. It's the opportunity for our community."

The work Wehner refers to extends well beyond the park renovation. In fact, it is just one small detail in the authority's larger, long-term initiative to turn Mobile, AL, into an international aerospace cluster by leveraging its two airports and their respective industrial parks. Development of Brookley Aeroplex — named for Brookley Air Force Base, which was once the very lifeblood of Mobile — figures prominently into those plans.

Long Ascent

When Brookley Air Force Base closed in 1969, it kicked off an area-wide depression that lasted a decade or more. Families were quickly moved to other bases, leaving Mobile devastated by the largest base closure in U.S. history at the time. For years, Brookley Air Force Base and the enterprises that supported it were the very essence of the community.

The city took over the Brookley Air Force property and began operating it as two individual business units: a mixed-use industrial complex and a general aviation airport, BFM. Soon after, Teledyne Continental Motors began leasing a large portion of the complex to build piston aircraft engines and is still present today.

In 1982, city officials created the Mobile Airport Authority to own, control and operate BFM, the Brookley Complex and Mobile Regional Airport (MOB) — beginning what would become a focused effort to recruit aviation business to Mobile.

Space is earmarked for a research center to help universities, two-year colleges and aerospace businesses work together.

The authority's first significant project was securing bonds to construct a new passenger terminal at MOB, located in west Mobile. It succeeded — despite tough market conditions that included airline bankruptcies — and the M.C. Farmer terminal was dedicated in 1986. Today, MOB is home to Signature Flight Support, Airbus Military, the U.S. Coast Guard, Army National Guard and others.

Fifteen miles across town at BFM, Singapore Technologies announced plans to open a maintenance, repair and overhaul facility. Since opening in 1991, VT Mobile Aerospace Engineering has grown to occupy more than 1 million square feet and employ more than 1,300 workers.

Currently, more than 75 companies lease space at Mobile Aeroplex, including FedEx, Signature Air Support, Airbus Engineering, VTMAE and others.

But the authority landed its biggest fish in 2012, when Airbus announced it would build its first North American final assembly line for the A320 family of jetliners at Brookley Aeroplex. As such, Mobile became the home of the company's first U.S.-based fixed wing aircraft production facility.

A diverse mix of transportation modes has proved invaluable in attracting companies like Airbus to the Mobile Aeroplex at Brookley. In addition to its airport resources, the facility's logistical confluence includes water (the Port of Mobile), rail (all five Class 1 railroads at the port; CSX on property) and roadways (interstate highways 10 and 65).

BFM's two runways are key air assets. At two miles long, Runway 14-32 can accommodate huge aircraft like Antonov An-225s.

Michael Baker International, Mobile Airport Authority's airfield consultant of record for more than 25 years, is currently working on a parallel taxiway project at BFM. The multi-phase initiative will realign and widen Taxiway A to a consistent 75 feet, making the airfield compliant with new FAA standards and more operationally efficient.

Construction of the Airbus facility began in April 2013, with a $600 million project; aircraft assembly is scheduled to begin this summer.

Claudia **Holliway**

"The airport spent countless hours pursuing Airbus, working tirelessly to get a facility established in Mobile; it is a testament to their vision," says Claudia Holliway, senior vice president and national aviation market lead for Michael Baker International. "They did a fantastic job on their marketing. Airbus took notice – in addition to location and other strategic elements, I believe Airbus chose Mobile because of the authority's diligent sales efforts, which resulted in a solid partnership plan for the future."

The airport authority is working to make facilities and offerings attractive to nearby neighbors.

For its part, the airport authority has initiated landscaping, signage and roadway projects in addition to airfield improvements. With many projects finished and others close to completion, the authority indicates there is much more to come. A local firm recently opened the first 5,000-square-foot phase of a new retail development at the aeroplex.

Airside Improvements

BFM's current $30 million Taxiway A project has been on the books for more than 10 years, notes Thomas G. Hughes, A.A.E., IAP, deputy executive director of Mobile Airport Authority.

Thomas G. **Hughes**

The airport began the taxiway project construction at the end of 2013 and was on schedule to finish by the end of 2014; but weather delayed construction. Completion for the first phase is now expected in March 2015. Phase II begins in April 2015 and is slated for completion in the 2016. The updated taxiway, designed with 35-foot paved shoulders on each side, will accommodate up to aircraft design group 5.

"We had been working with the FAA to straighten Taxiway Alpha," Hughes says. "Due to the old configuration of the military runways, there was a hotspot that the FAA recognized — some pilots did not stop at the hold short line as required, but rather entered onto the active runway."

Jeff **Hester**

Jeff Hester, Baker's assistant vice president and operations manager of its Mobile office, notes that limited design time, budget ceilings, airfield tenant coordination and operational constraints have made the taxiway project challenging. Having worked with Mobile Airport Authority since 1988 (first with LPA Group, which Baker acquired in 2010), Hester has a healthy frame of reference.

"The Taxiway A project had to be initially designed and bid in a very short time span at the start of 2013," he recalls, adding that bid documents had to provide options before specific funding amounts were determined. "We were certainly hopeful for a full-funding scenario; but in order to meet FAA grant funding deadlines, we had to move ahead in anticipation that whatever amount was awarded could be accommodated with a realistic bid award option."

When bids were received in June 2013, the FAA could only commit to partial funding, which translated to a "base bid award — asphalt option," with an approximate FAA grant issuance of $15 million. The current base bid project started in December 2013 and is ongoing, with completion anticipated this spring. Since then, the FAA has been diligent in its partnership with the airport authority to seek the additional funds to complete the project as designed, reports Hester.

In late fall 2014, Mobile Airport Authority was officially awarded the remaining funds, via a separate grant issuance of approximately $15 million to complete Phase II of the BFM taxiway project. This segment will complete the new partial parallel Taxiway A from existing Taxiway F (located midfield) southward to Runway 18-36, adding about 3,500 linear feet to the taxiway. The entire project from Runway 14 threshold southward to Runway 18-36 tie-in will include 9,200 linear feet of pavement (including connector taxiways) once completed.

In order for the Airbus project to begin construction – and therefore stay on schedule – Airbus designers called for the removal of a section of the existing taxiway before the new taxiway project began. This presented operational challenges for the airport, as aircraft had to be re-routed to taxi from various locations of the airfield. The airport implemented creative aircraft taxi procedures and phasing to accommodate this temporary measure, notes Hester. During one phase, planes taxied back on the same runway on which they landed. BFM's operations team, Airbus consultants and the airport authority worked together to create a communication plan to keep everyone informed as changes were made, he adds.

Site drainage was another major challenge during the design phase of the taxiway project. With city stormwater runoff regulations restricting any increase in offsite flows from site-related drainage, planners had to review options carefully to ensure compliance with requirements and FAA advisory circulars when addressing drainage for the relocated parallel taxiway.

General consensus was against building a large aboveground retention pond due to concerns about attracting waterfowl and other wildlife. Instead, Baker personnel designed a massive series of underground storage pipes that detain stormwater, and then slowly release off site. The pipes, some measuring 60 inches in diameter, run for thousands of feet. Hester's team designed the system and supervised its construction by local contractor H.O. Weaver and Sons.

Landside Work

Hoar Program Management in association with Hatch Mott MacDonald managed the solicitation, selection and design management for all Airbus facilities at Brookley Aeroplex, and consequently worked closely with Baker International.

"We knew we had to hit the ground running because of the schedule," recalls Kendall Kilpatrick, vice president and division manager for Hatch Mott MacDonald. "We jump-started the project by self-performing the design of the mass grading of the site. We designed the construction drainage as well as the permanent outfall for the Airbus facilities, and we knew we had to accommodate a 100-year storm event to be compliant with the city of Mobile stormwater regulations; so we installed 84-inch-diameter pipe. When (Baker International) created the drainage system on their end, we worked together to ensure that the separate but coordinating drainage systems were seamlessly functioning together."

Along with the ongoing taxiway and Airbus projects, all the major roads and sidewalks within Brookley Aeroplex are on track to be repaved by spring.

"Practically every road and drainage system on the property was in need of repair," reports Hester. "Years of deterioration – some dated as far back as 1939 – necessitated major reconstruction throughout the complex."

Wider Implications

As plans developed for Mobile Aeroplex and BFM, nearby MOB also saw its fortunes improving. Airport executives are particularly proud of adding a new United Airlines flight to Chicago's O'Hare International in April 2013. "United knew we had the business market to support the flight and could see the growth and potential," explains Hughes. "A full 65% of the traffic at Mobile Regional is business travel, which would be a coveted number at any airport. Our relationship with Airbus has increased our visibility even more, and more business travelers will be routing back and forth from other Airbus sites."

MOB recently modernized its facilities with updated flooring and new airline and rental car counters. It also added a cyber bar/charging station, an art program, a new shoeshine stand, and an Executive Club.

With the aeroplex hosting 4,700 aviation-related jobs on its campus, the community in and around BFM is buzzing and growing.

"In the '60s, we had 17,000 civilian employees, not including military personnel, at Brookley (Air Force Base)," says Wehner. "When it closed, the impact was devastating. We lost a lot of residents, businesses and it depressed the community for a long time. Now, we're going in the right direction. This new development has been great for the aeroplex, but the ripples across the community are great for everyone. As we rebound, we're seeing changes in the community that are very promising."

At the request of Airbus' senior leadership, Wehner visited the company's business units around the world to evaluate each program and generate ideas to ensure success in Mobile.

"We traveled to various aerospace clusters as research investigators and studied them in detail," Wehner explains. "We tried to understand best practices, mistakes and what was positively correlated with success. Then we created what we call the playbook — that's the manual we use at the aeroplex every day. Two things stood out: first, a holistic workforce development model. We saw that the most efficient way is to build people up through an organization; it's homegrown. And the second thing is to bring the intellectual capacity to bear in the most vibrant fashion you can."

The team consequently developed the Alabama Aerospace Innovation Research Center (A2IRC), or, as locals refer to it, "AIR." The airport authority earmarked the old commander's building and two other facilities – a total of more than 80,000 square feet – for the center. It also invited all of the state's research universities and local two-year colleges into the space to create an ecosystem of education and business working closely together.

"We have the university interacting with industry, plus high school programs to further education in aerospace in Mobile and surrounding areas," chronicles Wehner. "They're offering opportunities to conduct research and workforce training, and, most importantly, a long pipeline of kids who are interested in moving up through our industry. We have a major focus on children in STEM (science, technology, engineering and math) and focused efforts on women, minorities and veterans in aerospace."

With lower-income schools bordering BFM, Wehner considers the research center a "beautiful opportunity to build up our community at large." Factor in the Airbus training center the state built on airport property and a two-year college aviation training center, and the formula is even more promising. "There are a lot of companies lining up to support the programs," he reports.

Bottom line, Wehner anticipates huge results from programs at the research center over time.

"This transcends a taxiway project or even our master plan. It transcends the entire community," he explains. "It will be transformational to the Gulf Coast. If you take every major aerospace cluster that exists, we would have to be dramatically different for this to not dramatically impact not just the airport, but (also) the 200-mile radius in every direction. Jobs … advanced manufacturing — this is a game-changer."

Michelle Hurdle, director of economic and community development for Airbus, agrees about the impact the aeroplex will have: "This greatly benefits Mobile and the whole Gulf region. Mobile will now be only the third location in the U.S. where large aircraft are built, and a new aerospace hub in the country. The Mobile you see today will change over the next five to 10 years for the better, with growth bringing more opportunities and different career options to the city and state. Airbus has already been a part of the community with our Airbus Defense & Space and Airbus Engineering facilities here. The A320 Family Assembly Line is just one more example of our commitment to this community."

Green Spaces & Tributes

In addition to airside and landside projects, Mobile Airport Authority is also addressing the human side of its long-term development initiative. As such, it is leading the creation of a veterans' memorial garden at the aeroplex.

"Two beautiful, mature oak trees will serve as a gateway to a sanctuary that will honor past and recent service and sacrifices of the Army, Navy, Marine Corps, Air Force and Coast Guard," describes Wehner.

The airport authority is also helping renovate Doyle Park, where Wehner met young Frank tracing airplanes in the sky. By participating in a public-private partnership that is investing $1.5 million in the park, the authority is helping change it into a safe place where local children can grow and thrive, Wehner explains.

"We have seen a great diverse group of kids watching the flights in wonder," notes Wehner, of the park that sits directly on BFM's flight path. "When you watch these kids, you can picture this aspirational springboard on which they can swing on a swingset, see the new Airbus buildings, and see aircraft in flight. If they have a tiny bit of interest in math and engineering, and we can keep them engaged, we can keep them in Mobile. With all we have to offer in this area, everything they need to succeed is in walking distance. They can become a technician in 18 months and make $70,000 a year. If you think about the tremendous cost of students walking away from student loans, this is an amazing opportunity.

"Let's say a kid grows up right by Doyle Park," he continues. "And instead of leaving the area, they become a leader in that community and become an agent of change in that community."

Perhaps Frank, whose picture still sits on his desk, will be one of those future leaders.

Wehner's passion for the airport and community — and their collective future — is shared by many people working on projects at Mobile's aeroplex and airports. Kilpatrick, of Hatch Mott MacDonald, is especially happy to be an active part of improving the local area.

"From day one, when we began pursuing the project, we thought the revitalization of Brookley was really important," explains the Mobile native. "I see more opportunities and ways to improve life for my children."

Wehner also highlights the teamwork that has occurred to spur development. "All of our stakeholders have done a fantastic job working together with the businesses in Mobile," he comments. "The Airbus project would not have happened if not for the cooperation of the city, county, state, Alabama Power and the Chamber, among others."

Not surprisingly, he's optimistic about the future: "Between our legacy assets in tenants and land, we continue to grow … FedEx now has 757s — up to three flights a day. The whole aviation side is growing."

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Airports Partner with TSA for Private Screening Program

By Jennifer **Bradley**

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Project: Private Security Screening

Method: TSA Screening Partnership Program

Pilot Project: 2002-2004

Pilot Airports: San Francisco Int'l; Kansas City (MO) Int'l; Greater Rochester (NY) Int'l; Jackson Hole (WY) Airport; Tupelo (MS) Regional

Current Participation: 21 airports

Sample Participants: Bozeman (MT) Yellowstone Int'l Airport; Orlando Sanford Int'l Airport

Respective Private Screening Companies: FirstLine Transportation; Trinity Technology Group

Timeline: Airports receive approval/denial within 120 days of application

Legislative Background: Program is a requirement of the Aviation Security Act of 2001

Noteworthy Details: Private screeners must maintain same credentials as federal transportation screening officers & may not be paid less; TSA contracts private screeners; private contractors must offer existing federal screeners jobs before hiring new applicants

Last year, Orlando Sanford International Airport (SFB) became the 19th airport to join TSA's Screening Partnership Program. Now a private firm performs its security screening for passengers and checked baggage.


Diane **Crews**

"Privatization creates competition, which in turn begets greater accountability, productivity, innovation, efficiency and customer service at a lower cost," explains Diane Crews, vice president of Finance and Administration for the Sanford Airport Authority.

Privatization of public services is not a new concept, and has been used widely with great success by all levels of public agencies as well as all branches of the U.S. military for many years, adds Crews.

Officials at Bozeman Yellowstone International Airport (BZN) agree. Using a private contractor allows them to flex the number of screeners scheduled to better match passenger volume, which fluctuates seasonally.


Scott **Humphrey**

"We also get spikes during certain times of the day, such as a large morning push and then again in mid-afternoon," notes BZN Deputy Director Scott Humphrey. "The ability of the federal agency to respond was somewhat limited. We really look at the (Screening Partnership Program) from a customer service aspect."

The sentiments shared by Humphrey and Crew are not unique. Currently, 21 airports throughout the United States have joined the TSA program and switched to private screening companies (See map above.) That said, this group represents less than 5% of all commercial service airports in the country.

Category IV facilities — particularly in Montana — have been the quickest to embrace the use of private screeners. All five of the various-sized airports selected for the program's preliminary pilot still use private screeners (see list in far left column); but no new Category X or I facilities have joined the program.

How it Began

After 9/11 shook the nation and airport industry, TSA was formed by the Aviation Security Act of 2001. The new federal law passed by Congress also included provisions for a pilot program that would allow airports to use private contractors for passenger and baggage security screening services, operating under the umbrella of TSA's supervision. That was the official start of the Screening Partnership Program.

"The overriding goal of (the Screening Partnership Program) is to ensure that participating airports provide services that meet TSA security and performance standards, and maximize cost savings for taxpayers," says Carolyn Dorgham, the newly appointed director of the program.

TSA's mission, she adds, is to ensure that comprehensive security programs with uniform standards are applied to every commercial airport, whether an airport decides to utilize federal transportation security officers (TSOs) or a private screening workforce.

Airports participating in TSA's Screening Partnership Program are not held to lesser security standards, emphasizes Dorgham. While airports can use different technologies and processes to screen bags and passengers, the standards they must meet are identical.

Moreover, each airport participating in the program is required to have a federal security director on site to oversee its private contractor and ensure that TSA standards are met. "Security remains the responsibility of the local federal security director, and his or her staff at all federalized and (Screening Partnership Program) airports," Dorgham specifies.

After the program's two-year pilot concluded in 2004, participation was opened to all U.S. airports with commercial service. Officials also added formal provisions requiring that private screeners must maintain the same qualifications as TSOs and may not be paid less than their federally employed counterparts.

Airports participating in the Screening Partnership Program do not select their individual screening companies. Contracts are awarded by TSA, based on three criteria: security, screening effectiveness and cost-efficiency.

Montana Airports Make the Switch

With nine airports currently using private security screeners, Montana has more airports participating in the program than any other state. Florida follows with four and California with two.

Bozeman Yellowstone International Airport (BZN) is one of the Montana facilities that have made the switch to private screeners. BZN received its approval from TSA to do so in August 2012 and its contract in June 2014. But the airport's initial steps toward privatized screening began several years earlier, prompted by concerns with TSA staffing and a desire for better response to the ebbs and flows of its passenger traffic.


Brian **Sprenger**

"Their attitude has changed, too," says BZN Director Brian Sprenger, referring to TSA's thoughts on the program and why the airport put its initial application on hold. "When the situation

changed in 2012, and Congress pushed for more privatization, we took another look at it and felt it was time to pursue it again."

Humphrey, the airport's deputy director, describes the application process as streamlined, without a lot of hurdles to jump through or cumbersome back and forth with TSA. "We had interaction with a number of vendors along the way, but there was never really any information from the TSA in terms of who it would be," he adds.

Sprenger recalls the transition going well. Airport officials were initially concerned about changing to private screeners in fall 2014, right before the holiday rush; but BZN and its approved vendor, FirstLine Transportation*, collaborated to make the new system work, he notes. The transition began in September and was completed by November.

Approximately half of the screeners previously employed by TSA stayed on at BZN, which greatly reduced the amount of training needed. Program contractors, in fact, are required to offer jobs to existing TSOs before opening positions to new applicants.

The passengers boarding planes at BZN have been pleased too, reports Sprenger. "Over the holidays, the wait time improved," he notes. "The attitude of the screeners is much better, too."

Sprenger characterizes some of BZN's checkpoint fluctuations as typical: At peak, summer or winter, about 700 passengers depart per hour; but the next hour, only 50 will need to depart.

"Traditionally, the security checkpoint has been a sore spot for our customers, and we're not seeing that anymore," says Sprenger. "Screening and customer service are not non-exclusive. They can be handled together, and I think that's the benefit we're seeing."

Last year, BZN handled roughly 483,000 enplanements.

Orlando Operations

With nearly 2 million passengers per year, Orlando Sanford International Airport (SFB) also finds TSA's Screening Partnership Program to be a good fit. Virginia-based Trinity Technology Group* currently provides its screening services.

Diane Crews, vice president of Finance and Administration for the Sanford Airport Authority, says that private screening companies offer airports a number of benefits:

- They must prove and maintain their worth every day to retain their contracts.
- They cannot afford to grow complacent and must always strive for excellence to maintain a competitive advantage.
- They must hold employees accountable to satisfy their customers (TSA and airports).
- They can reduce costs to meet the bottom line of profitability; but contract terms, and oversight by the TSA and airport, ensure that service is not compromised for financial gain.

Sanford Airport Authority began considering TSA's Screening Partnership Program in early 2010, and screeners from Trinity Technology Group assumed their posts at the airport this February. Like BZN officials, Crews says that the transition to private screeners went smoothly, with few minor issues. She also notes that the authority received tremendous support from Congressman John Mica and his staff, and advises other airports to enlist their elected officials for help, too.

"This was not only a good move, but the right move for the airport," Crews summarizes. "We believe private screening will result in greater accountability, productivity, innovation, efficiency and customer satisfaction."

** The private screening companies mentioned in this article were asked to provide comments but declined to do so.*

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Privatization Process

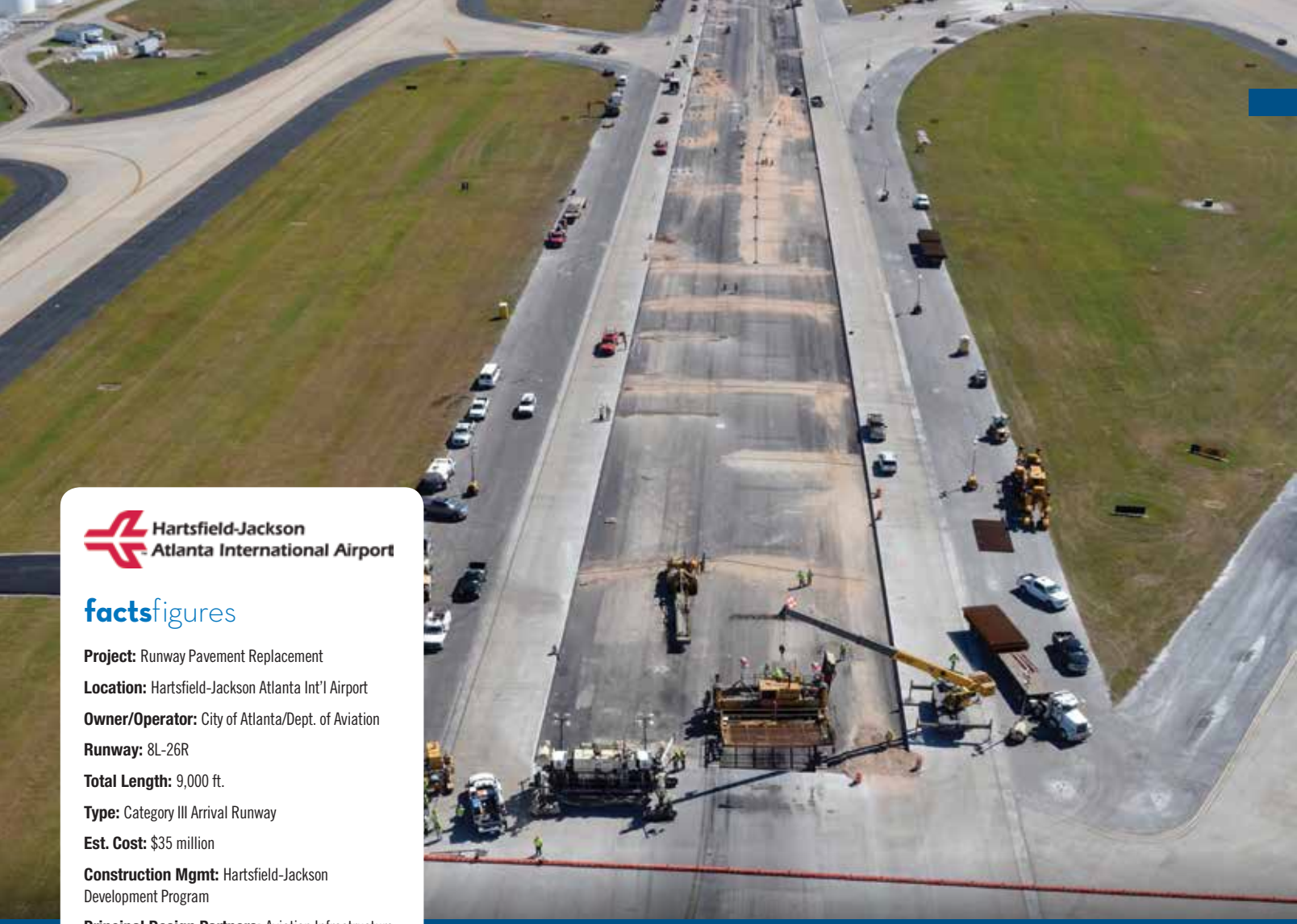
Airports applying to TSA's Screening Partnership Program undergo a multistep view process and are notified of their status within 120 days. Applications are initially reviewed by a TSA project team, and then by the Screening Partnership Program application chair. Ultimately, the TSA administrator and senior leadership determine which applications are approved and which are denied.

According to the federal agency's website, an application should be approved if doing so would not: compromise security, detrimentally affect cost-efficiency or detrimentally influence the effectiveness of passenger/property screening at the airport.

TSA also takes into consideration how switching to private screeners would affect new equipment deployments, airport configuration changes and other TSA programs.

If an airport's application is denied, TSA must submit a written report to the airport explaining the reasons for its denial, and provide a copy of the report to Congress.

More information and applications for TSA's Screening Partnership Program are available at the agency's website: TSA.gov.



Hartsfield-Jackson Atlanta International Airport

factsfigures

Project: Runway Pavement Replacement

Location: Hartsfield-Jackson Atlanta Int'l Airport

Owner/Operator: City of Atlanta/Dept. of Aviation

Runway: 8L-26R

Total Length: 9,000 ft.

Type: Category III Arrival Runway

Est. Cost: $35 million

Construction Mgmt: Hartsfield-Jackson Development Program

Principal Design Partners: Aviation Infrastructure Solutions Joint Venture (Pond & Company; Michael Baker Int'l)

Additional Design Partners: Corporate Environmental Risk Management; Key Engineering; Long Engineering

Construction: Sept. 15 - Oct. 14, 2014

Grading & Paving Contractors: C.W. Matthews Contracting/McCarthy Improvements Joint Venture

Electrical Contractor: Brooks-Berry-Haynie & Associates

Runway & Taxiway Lighting: ADB Airfield Solutions

Key Challenge: Minimizing disruptions to flight operations at the world's busiest passenger airport

Noteworthy Detail: Airport saved considerable time & money by replacing center strip of runway & leaving less-worn outside edges intact

Associated Project: Permanent construction gate for north side of airport

Construction Mgmt: Hartsfield-Jackson Development Program

Design: Aviation Infrastructure Solutions Joint Venture

Electrical Design & Security Controls: Key Engineering

Key Benefits: Reducing construction traffic on airfield; facilitating flow of contractor work & flight operations

Partial Runway Replacement Saves Time & Money at Atlanta Int'l

By Jeff **Winke**

Executives at Hartsfield-Jackson Atlanta International Airport (ATL) recently became official fans of "not throwing the baby out with the bathwater." By replacing the workhorse center strip of Runway 8L-26R and leaving its seldom-used outer edges undisturbed, the bustling hub not only saved time and money on construction, it also minimized operational disruptions and related costs for ATL's carriers.

Last fall, crews replaced the center strip of the 9,000-foot Category III arrival runway in 29 days, at an estimated cost of $35 million. In contrast, a 2006 full-width replacement of the the adjacent Runway 8R-26L cost $91 million and took 59 days. (Both projects also included replacing associated taxiways.)

With the recent partial replacement complete, ATL's baby is, indeed, safe and dry. And with more than 2,500 flights per day and 900,000 aircraft movements per year, the world's busiest passenger airport can't have it any other way. Last year, more than 96 million passengers passed through ATL's terminals, with carriers serving more than 150 U.S. destinations and 60 international cities.

Keep 'Em Flyin'

When Runway 8L-26R's pavement started to show fatigue in recent years, safeguarding the airport's overall schedule of takeoffs and landings became an immediate and paramount goal. Like an NFL play that scores or a stirring ballet performance, timely airfield operations rely on carefully choreographed, well-practiced plans. ATL operating with one of its five high-volume runways out of service for renovations is like the Patriots playing

without Tom Brady or the Bolshoi performing one dancer short: It's anything but business as usual and far tougher to succeed.

"With Runway 8L-26R, we're looking at 500 domestic, international and cargo flights each day," explains Norma Click, senior project manager with Planning and Development at ATL. "Our construction timeline and execution needed to be extremely tight."


Norma **Click**

Officials consequently tasked the airport's on-call engineering consultant, Aviation Infrastructure Solutions Joint Venture, with designing the reconstruction of the airport's northernmost runway and two of its high-speed taxiways in January 2012.

As leaders of the joint venture, Pond & Company and Michael Baker International managed the overall design and divided the project into three components: pavement, electrical and markings. Corporate Environmental Risk Management provided on-site construction support; Key Engineering provided electrical design services; and Long Engineering assisted with runway design — specifically the drainage/underdrain design and erosion control plans.

Although runways the age of 8L-26R are usually replaced en masse, the airport's tight timeframe and funding inspired Aviation Infrastructure Solutions to evaluate other options. In turn, the joint venture team and ATL civil engineers John Rone and Bob Mahfood conducted a pavement study to ascertain the precise condition of the runway.

Project leaders were not at all surprised by the study's results, recalls Quintin Watkins, assistant vice president with Baker International. The center of the runway was in most need of repair, while the sections that flank it on each side were intact and functional. Based on the research findings, the design team concluded that an innovative partial replacement would be speedier and more cost-efficient than a traditional full replacement.


Quintin **Watkins**

"We realized that the same performance could be achieved with replacement of only the keel or center portion of the runway, while leaving the less-trafficked outer panels as-is," Watkins explains.

Replacing only the center 100-foot keel section of the 150-foot wide runway saved the team 33% of materials, details Joseph Snyder, Baker's project engineer. "We also estimate that we saved 14 days of work on the project," he notes.


Joseph **Snyder**

From demolition through finishing and other final touches, crews had 29 days to complete the project.

In addition to minimizing construction costs for the airport and reducing disruption to passengers, the abbreviated schedule translated directly into cost savings for the airport's carriers. And such costs add up quickly. Airport officials estimate that every day a runway is out of service at ATL, it costs airlines $1.5 million in increased fuel costs due to increased queuing and taxiing.


Tim **Fredlund**

Tim Fredlund, principal/ senior project manager with Pond & Company, explains that full-width pavement replacements have become the norm due to airports' operational reliability needs. "However, as we evaluated the actual conditions (at ATL), we concluded that the keel-section approach would allow for a significant time savings and a significant reduction in construction materials," Fredlund relates. "Additionally, the city of Atlanta would recognize significant cost savings, reducing the total construction area by 37%, from 150,000 square yards to 95,000 square yards of concrete, including the two high-speed taxiways that needed replacement."

New Design, Shorter Schedule

Aviation Infrastructure Solutions and ATL engineers saved additional time and cost by redesigning the various layers of the pavement being replaced. Previously, the section was composed of 16 inches of Portland Cement Concrete on 6 inches of cement treated base and 6 inches of soil cement. By converting the pavement to 20 inches of Portland Cement Concrete on 2 inches of an asphalt leveling base (after milling the base material to allow for the added depth), the design team was able to offer the same level of structural support but reduce the time required to replace the runway. With the new design set, the design team established an aggressive 29-day construction schedule to meet ATL's operational needs.

Another innovative project strategy was the use of a two-step paving train that allowed crews to insert reinforcements between the two layers of concrete. Welded wire reinforcements were used to strengthen the 25-by-50-foot panels designers specified to match the dimensions of panels used when the runway was built in 1984. Although 25-by-25-foot panels are now standard at ATL, the reinforcements elevated the longer panels to the current square panels' performance level,

ATL is one of the first large U.S. hubs to convert to all-LED runway lighting.

making it possible to follow the runway's original joint pattern.

Boosting Sustainability

On a broad level, performing a partial rather than full runway replacement allowed ATL to reduce the amount of new materials used and construction debris generated during the 8L-26R project. However, engineers also included specific elements to boost the airfield's long-term sustainability.

In order to take advantage of new developments in airfield lighting technology, the airport converted a significant portion of its north complex from traditional incandescent lamps to new LED lamps during the pavement replacement.

Until recently, only portions of ATL's taxiways included LED lights. Significantly expanding their use is expected to dramatically reduce the airfield's energy consumption.

Following the recent approval of LED runway edge lights, 8L-26R was one of the first runways at a large U.S. hub to be converted to all-LED lighting. ATL expects to cut the runway's electrical demand 50%

to 60% by replacing its previous runway and taxiway lighting with more advanced technology from ADB Airfield Solutions. New LED runway lights include high-intensity edge and end lights as well as medium-intensity guard lights. Taxiways were upgraded with medium-intensity centerline and edge lights.

A separate project will replace all other runway and taxiway lights with LEDs by this fall. To date, LED lights have been installed on all runways.

Reusing demolished material was another sustainability initiative taken during the runway replacement. Approximately 49,000 tons of milled soil cement from the old runway's sub-base was recycled into chip stone treated base and used on an adjacent ATL project. In addition, crews hauled 113,000 tons of concrete slabs that were removed from the runway to a disposal yard near the airport, where they were crushed and re-sold as graded aggregate base for future projects.

Nary a Month

Replacing a high-traffic runway at the busiest passenger airport in the world, while also maintaining ramp access for cargo and general aviation traffic, requires an A380-load of planning and coordination. Ensuring airfield access for workers and materials while observing strict FAA security guidelines for construction activity are two typical challenges.

On-site contractors at ATL were given a strict 29-day work window — from 11 p.m. on Sept. 15 to 11:59 p.m. on Oct. 14. During this tight time frame, C.W. Matthews Contracting removed the old runway and constructed the new runway to finish grade, and McCarthy Improvements completed the concrete paving. Working in concert, crews demolished and replaced a total of 95,040 square yards of concrete pavement.

Raising the degree of difficulty for the project, President Barack Obama flew into ATL the very first day of the runway closure. In preparation, the airport shut down access to the airfield and adjacent roads to maintain security. Despite the extra hubbub, the joint-venture team, already on site, continued its demolition work in the restricted-access area and maintained a productive workflow toward its impending deadline.

Strict schedules and a visit from the leader of the Free World notwithstanding, the construction team finished the project without a single lost-time accident. With crews averaging 350 workers per shift and logging a total of 210,000 work-hours, there were no reportable contractor injuries during the 29-day effort — an important accomplishment in ATL Project Manager Click's book.

"When I stood on the beautifully completed runway the night before it officially reopened, I truly appreciated the hard work and phenomenal coordination that made this project such an outstanding success," she relates. "It took every person working together to do what we did in only 29 days! It was a true testament to the high caliber of people on our team."

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JetBlue Extension at Kennedy Int'l Includes the Unexpected

By Nicole **Nelson**

factsfigures

Project: Terminal Expansion
Location: John F. Kennedy Int'l Airport
Terminal: 5
Owner/Terminal Operator: JetBlue Airways Corp.
Governing Body: Port Authority of NY and NJ
Expansion Footprint: 150,000 sq. ft.
Major Elements: 3 new gates; int'l arrivals facility; additional concessions
Passenger Amenities: Children's play area with interactive faux cockpit, flight simulator & control tower; open-air park for pets & passengers
Design Components: Shorter walking distances from aircraft to Customs & Baggage Claim; brighter walkways & int'l arrivals processing area
Construction Services: Turner Construction
Architect: Gensler
Planner & Engineer of Record: Arup
Automated Passport Control Kiosks: SITA
Seating: Thonet
Crowd Control Stanchions: Visiontron
Visitor Welcome Center: Parabit
Children's Play Area: Lee H. Skolnick Architecture + Design Partnership; Gensler
Project's Est. Economic Impact: 1,090 jobs created (including construction); $74 million wages generated; $325 million in total economic activity

The 150,000-square-foot extension of Terminal 5 at John F. Kennedy International Airport has JetBlue Airways all over it — literally and figuratively.

From a visual standpoint, the recent $200 million addition known as T5i ("i" for international) was designed to be a natural extension to the gateway originally opened in 2008. "JetBlue has been very, very focused on keeping a consistent theme and consistent finishes throughout T5," says Mark Ahasic, JetBlue alum-turned-Arup senior airport planner. "What is different is the customer experience."

Mark **Ahasic**

In addition to uniting the airline's international and domestic operations into a single facility, JetBlue is adding new amenities for customers of all ages (and even breeds). Digital welcome centers are already in place and an interactive children's play area and separate rooftop park for pets and passengers alike are set to open this spring.

Between subtleties like sunlit corridors to additional food and retail concessions, JetBlue is pulling out all the stops in the latest iteration of its bustling JFK facility.

Ahasic, who recently celebrated four years of service with Arup after working six years as JetBlue's director of operational planning, effortlessly puts on his JetBlue hat when speaking about his former employer's operating principles.

"JetBlue is all about what they call the 'JetBlue experience' and really trying to deliver a great product and service to their customer," he explains. "The design and the planning of this terminal has always had that in mind."

The T5i expansion centers around the airline's new international arrivals facility and includes a total of six contact gates that can handle international arrivals, plus three bus hardstand positions.

From concessions to contact gates, the expansion was designed to strictly adhere to JetBlue's Customer Bill of Rights, which stresses "bringing humanity back to air travel" and making every part of the experience "as simple and as pleasant as possible."

"We have been working with JetBlue for 10 years now, and their ethos is all we have

Brighter corridors and short walking distances were central design goals.

been," says Gensler's director of Aviation and Transportation, Ty Osbaugh. "If another airline does it in way X, they will do it in way Y."

Ty **Osbaugh**

In a mathematical interpretation of Osbaugh's reference, JetBlue's approach to the passenger experience is very vertical, or Y-axis, in nature.

"Everything that JetBlue does is predicated on the notion of bettering customer service by changing the paradigm of what you would normally expect," Osbaugh explains. "Gensler would like to work, as well, in terms of always doing a little bit of the unexpected and finding our architectural moments when people are really not expecting them."

Bright & Tight

T5i, which is located on the former site of the Terminal 6 Sundrome, is essentially an international arrivals facility that happens to have three additional gates added to the building. With that in mind, JetBlue and Gensler set their sights on improving its Customs and Border Protection (CBP) processes.

"There is a a fairly prescriptive formula on how you arrive at the design for (CBP facilities), as they are very regulated in terms of spaces and overall look and feel," Osbaugh relates. "But for Gensler and JetBlue, the spaces in between those events were where we could really add to the customer experience."

Osbaugh cites the fixed-length space that takes arriving passengers from the aircraft into the sterile corridor as an area where the design mission has been particularly successful. Basically, it's a glass box; so deplaning customers unexpectedly see sunlight as opposed to a dark, convoluted arrival corridor, as in many airports.

"People are getting a little bit confused – in a good way – when they get off the aircraft," Osbaugh reports. "I think that's probably the first place where you have the unexpected, and I think that ethos is radiating throughout T5i."

Similar "architectural sleight of hand" was also used to give the primary processing area a sunlit effect, he adds.

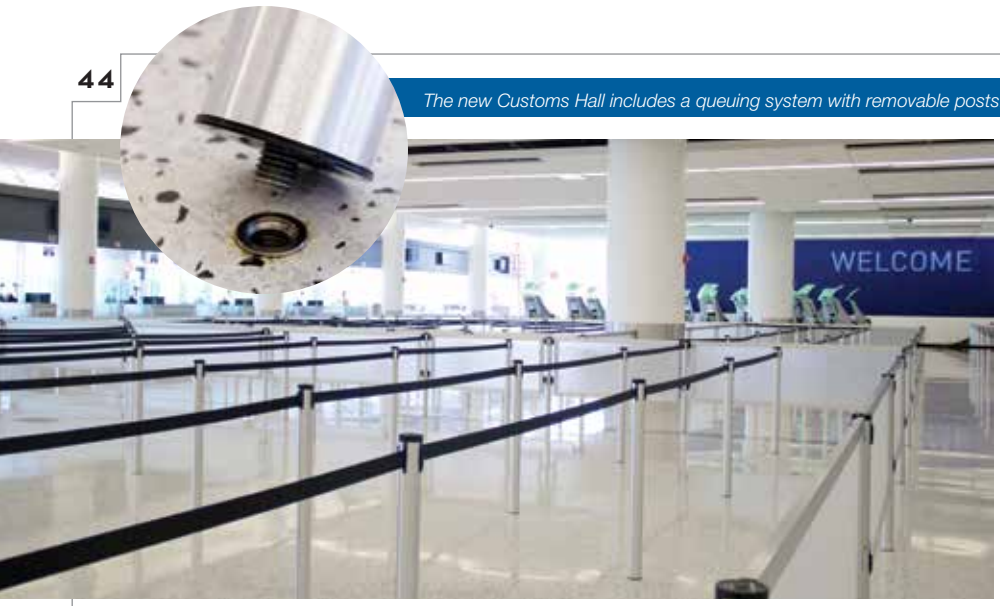
"We didn't necessarily want to put primary processing inside the building itself, so we slid the arrivals out from under the building a little bit," Osbaugh explains. "By pulling the building forward a little bit, we've made a glass jewel box that gets natural light into it. In some ways, that's the unexpected. From there, you'll go through the first of what we've termed 'the tunnels' where you will see a lot of vertical light fixtures to create this rhythm that bathes the space in light."

Beyond the ambiance leading into the CBP hall, the area's technology is also notable. A total of 40 Automated Passport Control kiosks and 10 Global Entry units populate the space to speed passenger service.

"This technology is being rolled out to a lot of existing U.S. customs halls, but T5i is really the first facility where this has been designed from the start," notes Ahasic. "(Automated Passport Control) kiosks are starting to be omnipresent, but going back two

years, we did a lot of work with JetBlue – researching the technology, looking at the various vendors, and doing passenger flow simulations to figure out how much space and how many kiosks would be required – all with the goal of minimizing the amount of time that each customer would spend in that Customs Hall before they pick up their bags and leave to go home or to their hotel."

The airport added 40 Automated Passport Control kiosks to speed passenger processing.



The new Customs Hall includes a queuing system with removable posts.

Serviced by 80 conveyors and two inbound carousels with dual feed lines, baggage claim is also a quick process compared to other Customs halls at JFK and other airports throughout the U.S., he adds.

"If you look at a drawing of the T5i facility, it is very compact," Ahasic details, noting that the gates are directly adjacent to the Customs Hall in a very tight, 'postage stamp' footprint. "The walking distance that a deplaning customer will take from the aircraft into the Customs Hall to the bag claim and out is very, very short. They can really get through this facility — if they use Global Entry, in five to 20 minutes. It allows customers to get off their airplane and get out to a taxi, to their loved ones, very quickly. From that standpoint, it has been a very good experience."

Amenities & Efficiencies

The new addition also puts the JetBlue spin on amenities for outbound and connecting passengers.

"JetBlue has always been customer-friendly, and one of their big drawing cards is their ability to relate to kids," notes Osbaugh, referencing the development of a scavenger hunt-style program that begins with a packet of information and crayons children will receive when checking in for flights out of Terminal 5.

Clues and prompts will ultimately lead them into a 700-square-foot play space that is being developed in partnership with New York-based museum designer Lee H. Skolnick Architecture + Design Partnership. According to plans, the area will offer interactive experiences via a replica JetBlue fuselage — complete with cockpit and flight simulator — and a faux

control tower with audio feeds from JFK's real tower. There will also be an area where kids can escape from it all to read books.

"There is a whole gamut of different activities that are planned within the space, but the whole idea is to make the kids' experience be just as important as the adult experience within the terminal," Osbaugh explains.

Another "coming attraction" is an outdoor park targeted to open in May. Originally designed to meet Port Authority requirements for a pet relief area, the idea snowballed into a full-fledged rooftop green space for pets and humans alike.

"Initially, we were thinking we would take a couple hundred square feet for an airside pet relief area," Osbaugh relates. "Now, we are going to utilize 10,000 square feet and make a park at the airport that everybody who is flying on JetBlue can use."

The rooftop space, he notes, will include several different programmatic components: "We have areas where you just sit on the grass; there is another kids' play area that is outside. And there are going to be tables and chairs, and potentially a vendor that will come out and serve food and drinks while you are waiting for your flight."

Future amenities aside, the T5i addition presents a myriad of positive financial and customer service elements in its current state, says JetBlue Vice President of Corporate Real Estate Richard Smyth.


Richard **Smyth**

"The most important thing we did was create a state-of-the-art and comfortable space for the CBP and all their sub-agencies. They have a better place to work," says Smyth. "That translates to a better experience for our customers, and that was our objective and probably the most important goal we achieved."

Smyth also highlights the three new international gates and three hardstands at Terminal 5. "Those additional gates just give us that much more elbow room and more flexibility," he notes.

"The time savings of not having to tow, and not having to reposition aircraft, translates into one additional aircraft a gate," relates Smyth, referring to the pre-T5i days of shuffling international aircraft and passengers between non-proprietary terminals. "The time we gain by not having to reposition those aircraft translates into one additional plane; and when you think of all the flying we can do in one day from one plane, that alone is a real tangible benefit."

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Tweed-New Haven Airport "Untangles the Pretzel" with New Roads & Parking

By Robert **Nordstrom**

tweed NEW HVN
Southern Connecticut's Airport

factsfigures

Project: New Parking, Roadways & Taxi Area

Location: Tweed-New Haven (CT) Airport

Airport Manager: AvPorts

Project Cost: $1,463,429

Funding: Connecticut Dept. of Economic & Community Development ($919,215); FAA ($489, 793); state ($40,816); local ($13,605)

New Parking Lot: 75,000 sq. ft.

Capacity: 87 spaces

Parking Cost: $10/day; $2/hour; 15 min. free for pick-ups & drop-offs

Design & Engineering: Dewberry Engineering

General Contractor: Waters Construction

Parking Equipment: Data Park

Project Design: 2012

Construction: Oct. 2013 – Nov. 2014

Of Note: Confusing pretzel-like roadway & parking configuration was demolished & rebuilt

Key Benefits: Improved customer convenience & satisfaction; increased parking revenues

Tweed-New Haven Airport (HVN) recently fixed a host of landside traffic problems by designing and rebuilding its roadways, parking lots and taxi pick-up area. The nearly $1.5 million project untangled what Executive Director Tim Larson describes as a "pretzel-like, almost figure eight, configuration" that had plagued the Connecticut facility for years.

Tim **Larson**

The new system is a night-and-day improvement, he notes. "We are realizing significantly more revenue from our parking. And from a maintenance, environmental and customer service perspective, everything is easier and more functional," details Larson.

In the past, vehicles entering and exiting HVN were confronted with confusing traffic patterns when attempting to drop off passengers or park, Larson explains. Travelers entering the airport for the first time often had difficulty finding their way through the non-intuitive maze. They could see the parking lot, but getting into it was another matter. Once in, they were confronted with three different parking areas with three different sets of entrances and exits. Getting out was yet another challenge, he adds, because the entrance and exit roads crossed each other, creating dangerous traffic hazards.

HVN's previous landside configuration was constructed to accommodate an influx of travelers when Yale University hosted the 1995 International Special Olympics; and it had clearly outlived its utility.

"The old system was a nightmare," Larson reflects, citing traffic flow and maintenance as two major shortcomings.

An unreliable parking collections system was another ongoing issue. "(It) was old, outdated and constantly breaking down; and we lost a lot of parking revenue," he relates, explaining that the airport would accommodate customers by allowing them to park for free when equipment was inoperable. Other customers would simply drive over the curb without paying.

"Parking revenue is a major source of income for the airport and is critical to our operations," stresses Larson.

New entry/exit gates and ticket readers are increasing efficiency.

Data from AvPorts, the firm that manages the airport, indicates HVN's parking revenues have increased at least 25% since the new system was put in place last fall.

Out with the Old, In with the New

During the project's 2012 design phase, airport authorities concluded that the system that worked in 1995 was no longer suitable, and committed to comprehensive reconstruction. Planners divided the project into three phases: parking lot, primary roadway and taxi staging area/administrative roadway.

Demolition work for the new parking lot began in September 2013. Because the lot sits approximately 12 feet above sea level, adding a new drainage system was an important part of reconstruction. Previously, hard rainfalls created serious ponding issues. Parking lot runoff flows into catch basins and eventually makes its way into a channel that runs through the airport and out to the Atlantic Ocean. Because tidal fluctuations affected the channel water, water sometimes backed up through the catch basin system and into the parking lot. Dewberry Engineering mitigated the situation by installing two tidal gates.

A swale around the perimeter of the new lot further aids drainage and adds aesthetic appeal, as it is filled with decorative rock and salt-resistant vegetation. The new swale also discourages customers from attempting to jump the curb without paying, adds Tom Sprong, Dewberry's resident engineer.

New conduit and wiring were run between the parking lot and terminal to allow travelers to pay for parking at terminals inside the airport before proceeding to their cars. HVN also updated its parking gates and ticket readers.

With new infrastructure in place, Waters Construction laid 3 inches of fresh asphalt over a crushed stone base to create a new 75,000-square-foot parking area. The redesigned lot includes 87 spaces and a single entrance/exit set to simplify matters for motorists. A raised and lighted concrete walkway that runs through the center of the lot leads customers to and from the terminal.

Roads and parking lots were redesigned to make them easier for passengers to navigate.

The airport's previous three-tier pay scale was consolidated into a $10 per day/$2 per hour scale, with 15 minutes of free parking for pick-ups, drop-offs and run-ins.

With the parking lot completed, HVN reconstructed the roadway leading into and out of the airport with a more intuitive circular drive configuration. Vehicles entering the airport now have two choices: proceed directly to parking, or drop off passenger at the terminal. They then drive counterclockwise along the perimeter roadway to the north side of the lot to park or continue on to exit.

"We removed the confusing and sometimes dangerous entrance/exit pretzel," Sprong relates. "The pavement was in bad shape, with lots of potholes and disintegration. The old roadway was demolished and new crushed stone base and asphalt were laid."

The 1,800-foot-long, 20-foot-wide road widens to 36 feet and three lanes at the terminal drop-off areas. "Vehicles follow the perimeter circulation road around the outside of the parking lot. It's much more intuitive," says Sprong.

In the taxi waiting area, designers had a telephone pole and landscaping island removed to open up the area at the rear of the terminal. Crews also demolished and rebuilt the old sidewalk and pavement areas, providing a taxi lane, drop-off area and multiple lanes for traffic circulation.

All's Well That Ends Well

Although HVN's parking and roadway reconstruction process was rife with frustrating weather delays and took longer than initially projected, airport officials are pleased with the results.

"Piecing everything together was quite a trick," reflects Larson. "But it's literally like night and day. People love coming here now, because it's so much more convenient. The feedback has been very positive."

Diane Jackson, AvPorts' HVN manager, also reports an uptick in customer satisfaction: "People come here expecting convenience and quality service, and now they can get it. They are no longer confused about where they are supposed to be going."

Diane **Jackson**

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AGRICULTURE

Dallas Love Field Fuels Up for Post-Wright Amendment Traffic

By Robert **Nordstrom**

factsfigures

Project: Fuel Transmission & Hydrant System
Location: Dallas Love Field
Cost: $11.6 million
Funding: Southwest Airlines Bonds; Dallas Dept. of Aviation; FAA; various federal grants
Design: April 2009 – Jan. 2011
Construction: Jan. 2010 – Jan. 2015
Apron Design & Utilities: Huitt-Zollars
Terminal Architecture: Corgan and Assoc.
Apron Paving & Utilities Contractor: Munilla Construction Management
Hydrant Fuel System Design: Argus Consulting
Hydrant Fuel System Installation: Meccon Industries
Program Manager: William Manning
Electrical: EAS Contracting
Excavation & Pipe Removal: Unified Services of Texas
Horizontal Drilling: TCH Directional Drilling
Leak Detection Equipment: Hansa Consult of North America
Cathodic Protection: Corrpro
Epoxy Piping: Consolidated Pipe
Controls Systems: Custom Controls
Fuel Control Valves: AFTEC
Of Note: Airport & Southwest Airlines partner to prepare for increases in air traffic expected after expiration of service restrictions in mid-Oct.

In October, the last eight of 20 new gates at Dallas Love Field (DAL) opened for business. To service the new gates, the Dallas Department of Aviation and Southwest Airlines partnered to install an $11.6 million fuel hydrant system. Both projects were carefully timed to coincide with the much-anticipated expiration of the Wright Amendment.

Passed by Congress in 1979, the Wright Amendment protected then-new Dallas/Fort Worth International Airport by restricting DAL from offering non-stop service to states not adjacent to Texas. In 2006, a compromise was reached that allowed DAL to offer non-stop service throughout the United States beginning Oct. 13, 2014; but it is still limited to 20 gates and cannot offer international service.

Anticipating the recent expiration of key Wright Amendment restrictions, DAL went to work on its facilities. Joining in a public/private venture, Southwest Airlines and the city of Dallas launched the Love Field Modernization Program in 2006 — the biggest construction project at DAL since the 1950s. The complex $519 million program included terminal demolition and renovation; demolition of taxiways, taxi lanes and apron pavements to prepare for new pavement; improvements to utilities and drainage; and construction of a new hydrant fuel system.

With some of the airport's long-time service restrictions lifted, officials expect passenger traffic to increase from 8 million to 12 million per year. Naturally, all those extra flights will require fuel.

Multi-phase Project

Mark Duebner, director of aviation for the city of Dallas, describes the new hydrant fueling system as state-of-the-art. "Two new 10-inch transmission lines have replaced the aging transmission system, which has been decommissioned and removed. The new system serves each gate with an in-ground hydrant pit and includes cathodic protection, high and low point pits and readily accessible valve vaults for ease of maintenance," details Deubner. "The system also incorporates a leak detection system and an emergency fuel shut-off system, which isolates five-gate segments of the fueling system while the remaining 15 hydrant pits can continue to operate."

Huitt-Zollars designed the airside civil improvements, including demolition and reconstruction of the apron and subsequent hydrant system work. The company's vice

Gerald **Prusik**

president, Gerald Prusik, PE, notes that the complex project included reconfiguring the sanitary sewer and an abundance of underground utilities and stormwater work in addition to the fuel system component.

As such, security fencing for aircraft operations areas was crucial. “We created our own sandbox, if you will, by fencing off an area, doing the work, then moving on to set up fencing in a new area,” Prusik explains. “For the most part, however, workers were able to access the fenced-off work areas directly from non-secure landside areas without having to go through badge check procedures.”

Huitt-Zollars contracted Argus to design the new hydrant fuel system. Project design began in April 2009, and construction took off in February 2011. The multi-phase project included the removal or safe abandonment of 13.5 miles of existing fuel line. Crews also installed 5,100 feet of two 10-inch fuel transmission lines from the fuel farm to the manifold and laid a 4,900-foot 10-inch hydrant loop to serve concourse gates.

Under the previous system, eight transmission lines from the fuel farm joined together at a manifold to feed the concourses; and six of those lines had been taken out of service. The two remaining lines served the old West Concourse, which remained in service throughout portions of the terminal renovation and construction of the new concourse. Old fuel lines were removed as construction proceeded, and lines running beneath the runways were drained and grouted with concrete.


Chris **Straub**

“It was a challenging project,” reflects Argus Vice President Chris Straub. “Phasing the project construction over four and a half years to make sure the airlines had a continuous supply of fuel throughout demolition and construction was a significant challenge.”

Phase 1 included construction of a new general use building and removing or abandoning existing decommissioned fuel lines in the area. During Phase 2, crews demolished the North Concourse and removed or abandoned decommissioned fuel lines within the footprint of the construction area.

Phase 3 included construction of the eastern half of the new concourse, demolition and replacement of the adjacent airfield pavement, utility and stormwater facility upgrades, and installation of the eastern half of the hydrant loop, with a new transmission line from the existing West Concourse manifold to the new hydrant loop.

Phases 4 and 5 included construction of the western half of the new concourse, including removal and replacement of additional airfield pavement as well as utility and stormwater upgrades. In addition, the hydrant fuel system installed during Phase 3 was

extended to encompass the western half of the new concourse. A portion of an existing 14-inch transmission line was temporarily used so the eight transmission lines running through the West Concourse tunnel could be removed.

The final portions of the West Concourse were demolished during Phase 4. Installation of two 10-inch transmission lines required directional drilling from near the tank farm to within the limits of Phase 4 construction. This was followed by installation of the lines to a new isolation valve vault that feeds the new terminal.

Surprise!


William **Manning**

As program manager and Southwest consultant for DAL's $519 million modernization initiative, William Manning, PE, JD, knew to expect the unexpected during the hydrant fuel project. But it was still a surprise when crews discovered aviation fuel in a portion of the existing fuel system slated for drainage and grouting. "It was a tremendous exercise getting the old fuel out," recalls Manning.

Where fuel lines crossed a runway, horizontal drilling techniques were used to bore beneath the runway. Personnel from Meccon Industries, the company contracted for the fuel system project, characterize the work as very unique.


Greg **Curran**

"Originally, the project called for 42-inch casing to hold two fuel lines inside and four 4-inch conduits above the fuel lines," explains Greg Curran, Meccon's project manager. "Instead, we were able to use horizontal drilling technology and drill three separate 1,000-foot bores beneath the runway. Two bores were used to install two 10-inch fuel lines and the third bore for communications conduits."

Prefabricated piping was installed in 300-foot lengths. At their deepest points, bores were 20 feet below ground surface.

"We had a lot of issues to deal with to control the slope of the pipe and ensure we didn't have high points that would trap air in the pipe," Manning adds.

The new system's looped piping is designed to maximize system flow rates and mitigate surge pressures. Isolation vaults are strategically placed to facilitate a zoned emergency fuel shut-off system, leak-detection monitoring and maintenance, while limiting the number of gates taken out of service. A new distribution header was installed at the fuel storage facility.

The new emergency shut-off system features push-button stations at each gate that will shut down appropriate motor-

The phased construction required temporary reuse of the existing piping system.

operated valves on the ramp to isolate the section of piping of concern and stop the flow of fuel. The system also sends an alarm to the tank farm to inform operators about the specific gate where the emergency has occurred. The emergency shut-off signals are processed by a programmable logic controller in the concourse, which in turn communicates with the tank farm via a newly installed fiber optic network.

Prepared for the Future

The new hydrant fuel system works in conjunction with the fuel farm Southwest built in 2006, complete with three 10,000-barrel aboveground tanks, pump pads and upgraded filtration and recirculation capabilities. The airline owns both assets.

Jim Stevenson, the airline's category manager of fuel supply chain management, is pleased with the new operations. "Putting a variable frequency drive (VFD) system in at the tank farm back in 2006 helps a great deal. Pump use is optimized via computer technology. With the VFD system, when multiple fueling activities occur and pressure drops, the system automatically brings another pump online. It's a great cost savings, because pumps do not just shut down and fire back up again, which creates a tremendous electrical power draw. The VFD system senses a drop in pressure and pulls another pump online slowly, thus using less current. When the system is not being used it goes into a bypass mode and eventually shuts down."

Praise for the coordinated relationship between Southwest Airlines and Dallas' Department of Aviation is pervasive. "They went into the program as partners, with a we're-going-to-make-this-thing-work attitude," Straub reflects. "That attitude trickled down to the design firms and contractors — everyone who worked on this project."

"We're excited," Stevenson adds. "With the fuel farm and hydrant system fully operational, passenger traffic in the first month after the expiration of the Wright Amendment was up 37%."

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Midway Streamlines Preventive Maintenance with New Asset Management System

By Robert **Nordstrom**

CHICAGO CDA DEPARTMENT OF AVIATION

factsfigures

Project: Asset Management/Maintenance

Location: Midway Int'l Airport (Chicago)

Terminal Maintenance Administrator: Skyline Management Group

Software Product: ProTeus MMX, by Eagle Technology

Purchased: Late 2012

Key Benefits: Streamlines & automates preventive maintenance & inventory management; maintenance personnel can use cellphones or tablets to scan assets' bar codes & connect with system

Midway International Airport (MDW) is upping its game when it comes to tracking and maintaining assets both inside the terminal and on the airfield. Skyline Management Group, the Chicago airport's property management firm, purchased a Web-based system for managing preventive and on-demand maintenance in late 2012; and company officials report that it is saving time and money alike.

In addition to helping manage maintenance activities, parts inventory, purchasing needs and labor hours, the new system allows personnel to use cellphones or tablets to scan bar codes on assets and connect with the system from various worksites throughout MDW. Once connected, they can access historic data and create new work orders or update existing orders; and the system automatically tracks/records their labor hours and accounts for parts used.

The ProTeus MMX program, by Eagle Technology, is also integrated with MDW's building automation systems to generate automated work orders when triggered by alarms or pre-determined runtimes.

Steve Caruso, chief engineer for Skyline Management Group, explains that the new system brings operations into the 21st century: "The old (preventive maintenance software) system was at the end of its useful life. It kept crashing and didn't encompass everything we needed it to encompass. The new system saves us money and time. It's one more tool to help our engineers and electricians be better at what they do."

The new Windows 2008 platform is also "much more user-friendly" than MDW's old MP2 program, which worked from a Windows 98 platform, adds Caruso. Although the former system generated work orders, maintenance personnel found the process time-consuming and cumbersome. The MP2 was a good system when it was released and still tracked the airport's assets, explains Caruso; it simply was time for updated preventive maintenance software.

"The new system is much more proactive," he informs. "In addition to documenting preventive/reactive maintenance activities and histories, it tracks our inventory so (for example) we know when we have two belts left and we

Chief Engineer Steve Caruso (standing) and engineer Mike Stewart (sitting) leverage the new system to manage preventive and on-demand maintenance.

need to order more. If we have questions, we can pull up supply levels quickly."

The new system also tracks each asset's history, providing field personnel information about previous preventive maintenance services and who performed them. If an asset fails, it explains why and documents whether it is a recurring problem.

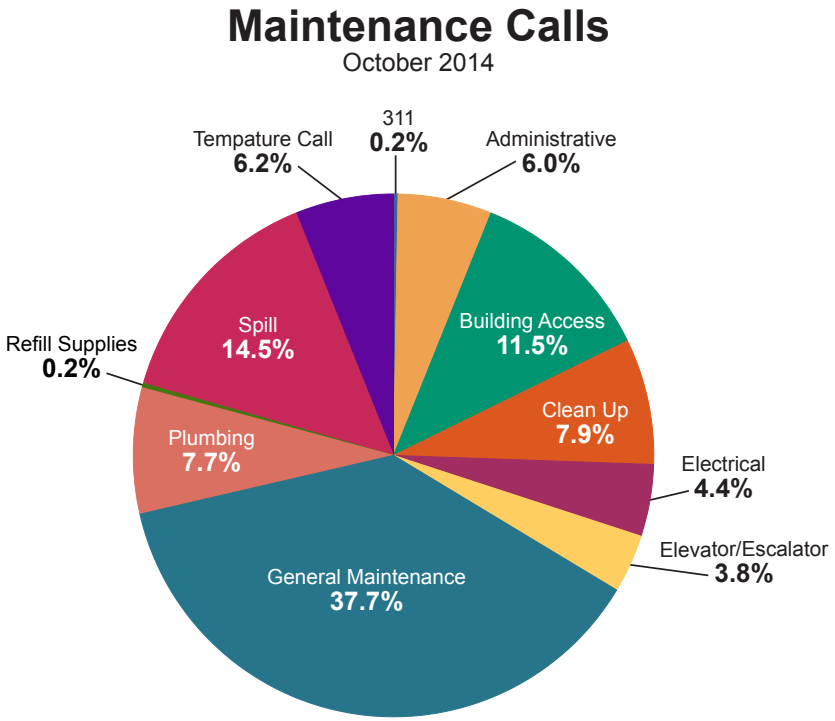
Another aspect Caruso highlights is the system's ability to interface with MDW's building automation system in real-time and generate work orders triggered by sensors within the equipment. For example, if static pressure drops in an air-handling unit, the program can automatically generate a work order and track the cost to rectify the problem, the program will signal an alert, open a work order and track the cost of fixing the problem.

On the airfield side, the Chicago Department of Aviation (CDA) uses the system's bar coding module for inventory control in its warehouse. "Shortly after the install, we began using the system to issue demand work orders to various trades," explains Felipe Najar, MDW's general manager of Grounds and Facilities. "We are now in the process of developing templates so we can use the system to track ongoing maintenance, set up preventative maintenance schedules and create various inspections. Once the system is fully populated, we will be tracking activities for CDA personnel and subcontractors as well."

How It Works

The system contains several modules that can be customized.

The Work Order Masters Module creates and maintains a plan for scheduled maintenance of assets that includes specific maintenance parameters and the tasks' associated labor, materials and downtime required. Work orders can be activated based on a predetermined schedule or runtime.



The Work Orders Module allows maintenance personnel to update Work Order Masters and respond to non-routine maintenance activities such as service requests or emergency breakdowns with a demand maintenance work order. In addition to providing information about the job requirements, the work order provides a permanent record of the employee, material and labor costs; cause of failure; asset downtime; and work performed.

The Assets Module presents a complete record of all equipment and related maintenance activity and costs. It also tracks warranty information, location and history of equipment and subassemblies, data essential for lifecycle costing, equipment maintenance, manpower and cost budgeting, and scheduling of downtime.

The Planner Module provides a visual representation of all maintenance activities and allows management to reassign and reschedule resources. Work orders can be sorted by assigned employee or the asset being serviced. A calendar view displays current, overdue and upcoming work orders.

The Time Card Module automatically updates employees' records according to the work orders they participate in, thus eliminating the need to open individual files to enter labor information.

The Inventory/Parts Module tracks information regarding usage, ordering and levels. Displays include quantities on hand, parts allocated, parts on order, inventory location and reorder levels. Vendors can be assigned to each item to facilitate purchasing activities.

Employee, vendor and contractor modules track pertinent information for each population; and a purchasing module automatically creates requisitions for parts equipment and services based on predetermined criteria.

Scan & Service

The Skyline team is particularly pleased with the bar coding capabilities ProTeus MMX provides. "The new system moves us ahead with its ability to interface with mobile devices such as cellphones and tablets," comments engineer Mike Stewart.

By scanning the bar code on an asset, maintenance personnel at MDW can review its

service history, create new work orders, record their labor hours and parts used, and update existing work orders (preventive and on-demand). Equipment, inventory, employees and work orders can be labeled and tracked, thus allowing users to collect the history of an asset in the field and freeing them from time-consuming paperwork.


Harry **Kohal**

Harry Kohal, vice president of Business Development for Eagle Technology, describes it this way: "From a runway light to a VAV (variable air volume) box, virtually any facility or airfield asset can be bar-coded and tracked. A work order can be sent to or created on a mobile device. Personnel can then scan a bar code on the asset to see the work history and open work orders on that asset. After the work is performed, they can add notes on work performed and close the work order."

According to Caruso, the bar coding feature makes it much easier to distribute work orders. "With the old system, we would get the PMs (preventive maintenance orders) for the day, then sit down and split them up according to the staff we had available for the night. This program performs all that administrative work for us once we assign it electronically. It generates the PM and assigns it to a designated engineer on his or her mobile device. The work order is closed out once the task is performed. Under the old system, the engineer would have to sign the work order, and then we would have to enter the information on the computer to close out the order. The process wasted a lot of time and paper."

With the new system in place, MDW has been able to track call center activity in one database. "From a spill on the floor to a burned out light, everything is tracked within the system," informs Stewart. "At the end of the month, we are able to report to our client in a more seamless fashion — in effect justify our function within the airport. It's a good tool for the CDA in that it allows them to evaluate the job we're doing."

Work in Progress

Jim Oates, Skyline's general manager, notes that the company evaluated several different systems before replacing the property management program it previously used at MDW. "The (new) system is a work in progress," comments Oates. "The team at Eagle has been a great partner thus far in developing the program components that (we) need to maintain our high standards."

While Skyline personnel note that the new Web-based system is saving time and money by automating preventive maintenance at MDW, they still consider it a work in progress.

Crews can use cellphones or tablets to connect with the system from various worksites throughout Midway.

For example, crews felt that printing bar codes required too many steps; so Eagle is currently developing a process to simplify the process.

"We are still ironing things out," Stewart reports. "We work with Eagle on a regular basis: We inform them what our goals are, and they respond with program updates. They are constantly developing and improving the program to make sure we're happy."

Any new system requires cooperation between the users and provider, Kohal notes. "It's not just about software; it's about processes and people," he adds. "Midway has been a very good partner with us."

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Wayne Municipal Rebuilds After Tornado Destroys New Terminal Addition

By Dan **Vnuk**

factsfigures

Project: Tornado Recovery

Location: Wayne (NE) Municipal Airport

Estimated Cost: $2 million

Timeline: EF4 tornado hit on Oct. 4, 2013; airport dedicated rebuilt facilities on Oct. 3, 2014

Assets Rebuilt: Terminal/shop hangar; numerous T hangars; airfield lights, navigation aids & weather system

Additional Projects: Improving highway access; upgrading hangars with insulation & heaters; installing new tip-down beacon; adding security fencing; installing new concrete to improve drainage & create additional parking

Terminal/Shop Hangar Reconstruction: OCC & its subcontractors

Facility Engineers: Olsson Associates

Airfield Lights & Electric Vault: Richards Electric

Hangar Construction: North Central Building

Electrical Subcontractor for Hangars: Beiremann Electric

Concrete Subcontractor for Hangars: Leseberg Construction

Furnace, Air Conditioner & Water Softener Installation: Zach Heating & Cooling

Office Replacement: Homestead Homes

House Reconstruction: Heritage Homes

Fuel System Replacement: Stanley Petroleum

Sitework: Milo Meyer Construction

Flat Concrete Installation: Sebade Construction

Fencing: No Swett Fencing

Automated Weather Observation System: Vaisala

AWOS Installation: Nebraska Dept. of Aeronautics

Of Note: Because terminal/shop hangar was 95% complete when the tornado hit, the builder's risk insurance paid to reconstruct it

Located near the center of "Tornado Alley," Wayne, NE, (population 5,500) has had its share of twisters. But the EF4 that roared through the tiny town in 2013 was especially cruel, damaging or destroying nearly everything in its path — including much of Wayne Municipal Airport (LCG) Stan Morris Field.

Adding salt to the wound, the airport had debuted a $950,000 terminal addition just two months earlier. Suddenly, the new facility funded with a state loan and Airport Improvement Program grant was gone — planes, hangars and all.

It wasn't gone for long, though. One year later, city residents celebrated LCG's comeback by attending a second terminal dedication ceremony — this time for a bigger, better terminal building.

Reconstruction and added improvements cost approximately $2 million, with expenses for rebuilding the terminal/shop hangar paid by the original contractor's risk insurance, because the facility was roughly 95% complete when the tornado hit. What initially felt like a harsh irony ended up also being an odd stroke of financial luck.

"The storm was devastating, but the silver lining is that the airport is now a beautiful facility with all new buildings," reflects Nancy Braden, the city's finance director.

Swirling Destruction

The violent tornado touched down southwest of Wayne at about 5:00 p.m. on Oct. 4, 2013 — flattening crops and damaging homes while gaining strength and heading northeast. It skirted Wayne's downtown and primary residential district but blew through the industrial park, causing severe damage, before heading directly toward LCG.

At the airport, the storm destroyed most of the buildings and wiped out the automated weather observation system, hundreds of runway/taxiway lights, the field's non-directional radio beacon and other navigational aids.

The tornado destroyed the airport's beacon (right) and dumped a tractor that was parked next to a hangar into a nearby field.

After the winds died down and rain ended, Airport Manager Tom Becker was taken aback by how utterly dark the airport looked without lights. "It almost seemed as if LCG never existed," Becker recalls. "The devastation was unbelievable."

Although the tornado stayed on the ground for nearly 20 miles, with wind speeds clocked at up to 170 mph, there was fortunately no loss of life, he stresses.

Building destroyed by the tornado included LCG's nearly complete general aviation terminal/shop hangar, two T hangars, a larger 10,000-square-foot hangar, the structure that housed the airport's radio beacon, a storage shed, the field's electrical vault and the on-site house that included a manager's office and pilot lounge.

"Some concrete slabs were all that remained of one hangar, while all four planes inside wound up in piles of rubble on the grass runway and in the fields," Becker describes. "Only the 10-bay T hangar remained standing; however, it did suffer damage to the exterior, roof and doors … Debris was all over the fields and runways. That was the tough part — not recognizing anything, including hangars and airplanes."

Vehicles and equipment demolished included LCG's courtesy car, a pickup with snowplow attachment, a John Deere tractor, a new sweeper broom, a New Holland bi-directional tractor with snow blower, and a fuel dispensing system that included a fuel pump, hose reel and credit card system.

One of the tractors parked next to a hangar was found in a nearby field, covered in steel, insulation and mud.

Tom **Becker**

Rebuilding

After damage at the airport was evaluated, a massive cleanup effort was needed before the rebuilding process could begin. "By December, we had most of the debris removed and were able to start reconstruction," reports Nancy Braden, finance director for the city of Wayne. "Working with the insurance adjuster, we were able to take bids for the facilities and begin the rebuilding process."

The airport board began meeting twice a month to facilitate the process, but a severely cold winter froze the ground and delayed construction. By August 2014, the majority of the buildings were back to their previous state, notes Braden.

Cleaning up after the October tornado took until December, and most structures were rebuilt by the following August.

Did You Know?

According to meteorologists, the United States records about 1,000 tornadoes per year — far more than any other country in the world. Neighboring Canada ranks a distant second, with approximately 100 annual tornadoes.

Reinsurance specialists report that insured losses from U.S. tornadoes and thunderstorms totaled $10.3 billion in 2013. The Federal Emergency Management Agency estimates that the tornado that hit Wayne, NE, and Wayne Municipal Airport in October 2013 caused more than $56 million of property damage. With lost income for area businesses and farmers, the figure is even higher.

During reconstruction, the airport authority also upgraded various infrastructure elements at LCG. Additional projects improved highway access, upgraded ten hangars with insulation and heaters, added a new tip-down beacon, enhanced security fencing and provided new concrete to improve drainage and create additional parking space.

Hangars were rebuilt using the same color scheme to improve the airport's exterior appearance; and many of the businesses with buildings damaged in the nearby industrial park chose to expand their facilities. In the end, only one business decided not to rebuild, reports Braden.

With reconstruction complete, LCG is back in business — with three runways and a total of 20 T hangars for rent. Becker Flying Service, the field's fixed-base operator, leases the airport's larger hangars (6,400 and 10,000 square feet) as well as its 40-by-40-foot storage building. Last year, avgas sales at LCG totaled about 18,000 gallons.

An on-airport house that had to be completely reconstructed is being leased by a local agronomy company for office space. And a new pilot lounge, meeting room and managers' office are now located in the main terminal/shop hangar.

Braden proudly reports that pilots and passengers stopping at LCG en route to Oshkosh, WI, for the Experimental Aircraft Association's annual fly-in frequently comment about the airport's great facilities and local hospitality.

According to local news reports, city officials were relieved when they first saw the recently re-built airport terminal, because they consider LCG the front door to their community and a crucial way to create a positive first impression on visitors.

Dave **Heineman**

Nebraska Governor Dave Heineman, who flew in for both terminal dedication ceremonies, highlighted the determination of Great Plains residents to prevail after all types of disasters. "In every case," he noted, "Nebraskans come together."

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Airports Leverage Technology to Manage Irregular Operations

By Jodi **Richards**

Even on an average day, traffic in the Chicago airspace can significantly affect surrounding airports. Throw in bad weather, which is not unusual for the area, or an oddball twist like the arson incident at the Chicago Air Route Traffic Control Center (TRACON) last fall; and business as usual gets very complicated very quickly.

Lexie **Farmer**

General Mitchell International (MKE) in Milwaukee is one of the area airports that regularly feels the ripples. Typically, MKE receives up to eight extra Southwest Airlines flights if Chicago Midway International (MDW) is "having issues," as well as additional diversions from American Airlines or United Airlines flights bound for O'Hare International (ORD), reports Lexie Farmer, MKE's assistant operations manager.

But the Milwaukee facility was slammed with 20 diversions on Sept. 26, 2014, the day of the TRACON fire. "We had them all over the airport pretty much," Farmer recalls. "OPSnet was our lifeline for that."

OPSnet is a collaborative decision-making software program by Passur Aerospace. Ron Dunksy, the company's senior vice president and general manager of global airports and business aviation, describes the system as a "web dashboard" that provides a "one-stop location to collect and distribute information."

Both automated and manual sources populate the system with information; and Passur works with more than 60 airports in the United States and Canada and about 125 airlines worldwide, notes Dunksy. The company's Airport Information Network brings together key aviation stakeholders in real-time to exchange information and manage large events like irregular operations caused by weather and events like the Chicago TRACON fire.

OPSnet is an aggregation of automated data, but also a way for airport personnel to stay connected and share data on a common operating platform, Dunksy continues. The basic Airport Information Network is available without charge to all authorized aviation users, while a paid subscription allows deeper access and expanded abilities. "As soon as they join, they're on our platform and generating information that gets folded into our network of information, and that becomes part of the overall ecosystem of data updates and information exchange," Dunsky explains.

Faster Than the Phone

Jim **Grava**

Ever since MKE began using OPSnet in 2005, it has become the airport's de facto tool for keeping staff in multiple departments updated and in the loop "When we have something going on, OPSnet and the chat bar is the way we communicate, notes MKE Assistant Operations Manager Jim Grava.

During an event like the TRACON fire, MKE also uses the software system to notify tenants about where to park aircraft if gates are unavailable or how long specific aircraft have been on the ground. It's much more efficient than calling everyone on the phone, notes Farmer.

But the system is not only used during news-making events like the TRACON fire. Farmer recalls leveraging the system's benefits late last year, when Chicago experienced thunderstorms and "dropped 17 aircraft" on MKE. "It's a pretty significant impact to us for irregular ops, whether an (Air Traffic Control) outage, thunderstorm or snow," she says.

Prior to implementing OPSnet, numerous airline managers would crowd into or call the operations office during snow events. Now, MKE personnel post runway conditions, snow removal updates and other associated information to all airlines simultaneously.

"We got rid of answering phones and making calls," Grava explains. "When we want to ask a question, we put it on there on the chat bar. When somebody wants to know what's going on, they put it on the chat bar."

Throughout the years, OPSnet has evolved into a "major communication tool" that allows the airport to be more proactive rather than reactive, he reflects.

Milwaukee's General Mitchell Int'l is accustomed to receiving diversions of flights bound for Midway Int'l in Chicago.

The front page of MKE's OPSnet portal also includes other important information, such as tornado and snow plans, construction notifications, field condition reports and Notices to Airmen (NOTAMs) about runways and taxiways.


Kathie **David**

"It comes down to planning," summarizes MKE Operations Manager Kathie David. "The more information that's out there, the more it helps the airport and airlines for planning and making changes quickly."

The Passur system has also affected procedures at Minneapolis-St. Paul International (MSP). Rather than sending 60 faxes per event or incident, airport personnel now send about 20, reports Kyle Scapple, technical operations manager, airside operations. With stakeholders able to pull relevant and timely information from the online system, the airport no longer faxes all information to all system users, he explains.

Scapple cites NOTAMs as an example: "This way, we're putting up our near-term, future closure plans to help that flight that might be two hours out."

While MSP doesn't currently use the system-wide chat function to manage events, Scapple notes that the airport plans to launch a new version of the software that will allow the airport to create event-based chats for select participants.

Industry-wide Collaboration

Just as the system's real-time chat function facilitates communication between airport personnel and their stakeholders, its real-time data sharing enhances wider collaboration, notes Bill Murphy, International Air Transport Association (IATA) assistant director, FAA Command Center.

"When we can get the air navigation service provider, the operator and the airport all sharing the information in real-time, it removes any misunderstandings," explains Murphy. "It allows everybody to share the same situational awareness, which in the end equates to efficiency."

As Murphy points out, speed counts: "Your ability to respond option-wise decreases as you get closer to your location. So with real-time communications, we're able to give more timely information, allowing the operator and crew that manage that part of the system an opportunity to make different decisions."

IATA is a key player in the OPSnet platform because the association sends real-time information from its airline command center to airports via Passur's Airport Information network. Between IATA's Tactical Operations Portal and Passur's Airport Information Network, airlines throughout the world receive real-time information about the status of North American airspace and airports, Dunsky explains.

The established information links played an important role during the Chicago TRACON fire, as IATA, several affected airports and groups like Airports Council International-North American (ACI-NA) used Passur's platform to help manage operations during the event. Because they were using real-time, automated traffic optimization tools, the various parties were working from a common set of operational metrics. As a result, notes Dunsky, they understood how many diversions were under way at any given time, the surface volume at nearby airports such as ORD, MDW and MKE, and the status of their airfields. "From that common picture, they are able to interact on our platform to better manage how events like this unfold," he explains.


Bill **Murphy**

While phone calls work for one-on-one cases with a specific airline and flight, IATA's Tactical Operations Portal allows it to send a specific message to an entire targeted user group through its alert function, notes Murphy. Once an alert is sent, IATA can activate a chat page to create real-time two-way communications with those involved. "It helps all the participants in the system," he says. "It's sort of a forum. The communication is multi-leveled and able to target the audience."

During the Chicago TRACON event, IATA shared real-time information with operators from the Middle East to the Pacific Rim. "The Chicago Center (handles) some of the most critical air space to our transportation system. And in the end, we were actually able to manage around it," Murphy reflects. "The disruption would have been much greater if we didn't have the improved communications."

Airports like MKE were able to ensure that airlines were aware of their capacities to handle diversions, including specific information such as fuel status, surface traffic management, and other critical details, Dunsky adds. Travelers were consequently not diverted to oversaturated airports, where they might have stayed on the ground much longer, he reasons.

Mother Necessity

The need for real-time information was also highlighted in October 2011, when facilities in Hartford, CT, were inundated with diverted planes as a surprise Nor'easter hit the New York area, Dunksy relates. Afterward, FAA held a series of meetings across the country designed to generate recommendations about preventing similar traffic situations in the future. One of the recommendations, he notes, was the need for a common industry platform that allows all key players to view the same real-time information, and then communicate and collaborate to prevent a single facility from being overwhelmed by too many diversions.

Incidents like the more recent Chicago TRACON fire show "how much better things can be managed when you have a common operating platform and a way to share information in real time," Dunksy reflects.

Murphy agrees that recent weather events and the Chicago TRACON fire have only reinforced the need to improve communication channels. That requires the air navigation service provider, airports and airlines to come together and talk, he adds.

One challenge is trying to standardize the information exchange, notes Chris Oswald, vice president of safety and regulatory affairs for ACI-NA. "It's been really helpful to us to work through our partners at IATA to engage in that kind of real-time information exchange through (its Tactical Operations Portal)," he says.

MSP's Scapple notes that it would help for FAA to put all airports on the same platform; but at the same time, he appreciates benefits such as quick updates and product development that private sector companies such as Passur, Sensis, Exelis and others provide.

In lieu of a single standard, Scapple says that the best thing airports can do is keep all stakeholders informed. "If we let everyone know the plan ahead of time, they can plan accordingly," he says. "They have little control over the event, but at least they know what we're thinking; and we provide a bit of situational awareness."

Some airports, such as MSP and Dallas/Fort Worth International, have created their own irregular operations management programs — and are vocal advocates of them, Oswald notes. He encourages other airports to take a leadership role within their regions to "coordinate information flow and try to engage their smaller, supporting airports in the region when events affect them."

From simple measures like having the right phone numbers on hand to high-tech software systems, all communication is critical, Oswald emphasizes. "Where we end up getting into trouble is where we work within location or geographical silos, or just our own airport — not looking outside or within our industry silos — when we're not communicating," he explains.

"The biggest issues have arisen where there isn't that clear line of communication between those three legs of air traffic management: FAA, airlines and airports," Oswald elaborates. "Systems that allow freer and near-real-time or real-time information exchange are an essential part of that."

Kyle **Scapple**

Scapple brings the issue back to bottom-line implications: "To the airlines, time is money. Every time an aircraft is delayed, they're losing money. What the airport can do is get them key information as timely as possible in order to benefit their operation."

To share or view this article online visit **AirportImprovement.com.**

Read, Write & Win

The evolution of technology has turned us into great electronic communicators. We are obsessed with sending emails, text messages, tweets, etc. Unfortunately, we no longer communicate very well or very accurately on paper. Often, our written messages are loaded with misspelled or missing words, poor sentence structure and punctuation problems.

These days, well-written internal memos and elegantly crafted external documents are harder to find than "a pig at the opera."

Not long ago, the voice of a very irritated aviation manager boomed through my cellphone, asking why highly educated engineers and planners can't seem to read or write. *"I just reviewed 19 technical proposals for a major project and immediately pitched 15 in the trash, because the best I could give them was 25 points out of 100,"* he fumed. *"I'm convinced they never took English and did not read the RFP!"*

Clients notice when reports and proposals are poorly written or are laden with mistakes. They form an opinion about your company, and not a good one.

Due to market demand, our public relations firm has evolved from specializing in transportation marketing and political consulting services to delivering communications support as well. Specifically, primes and consultants pursuing multimillion/billion dollar airport and highway projects seek our expertise on highly technical, detailed written documents.

Frankly, some of the documents give us heartburn. Doesn't anybody know how to use verbs and prepositions?

Many of the problems we correct stem from four issues:

1. Procrastination

Staff members do not take the time to *thoroughly* read a Request for Qualifications (RFQ) or Request for a Proposal (RFP). And, sadly, few people read to comprehend. Project managers are obligated to do so. But when we ask if this has occurred, "sort of" is a common response.

We believe it takes three readings for complete comprehension.

2. Prioritization

Preliminary documents are often submitted to clients for content review, but clients seldom perceive them as drafts. They see documents that don't flow and have structural errors as just plain sloppy.

We advise companies to apply the same standards of accuracy and writing quality to drafts as final deliverables.

3. Timing

Pressure creates mistakes, lots of mistakes.

Too often, proposals and plans arrive on the marketing coordinator or administrative assistant's desk the day before the submission deadline. Already knee-deep in other assignments, he or she rushes to review it on time because proposals are "top priorities."

Word to the wise: You're not being diplomatic by inserting "*Please*" before "*Get it done*!". Allowing the proper amount of time — two full days for editing and production — is a better strategy. Otherwise, Ms./Mr. Efficient will invariably do a poor job (and call you colorful names).

4. Accuracy

Content and punctuation errors are compounded when several people with different writing styles contribute to a document, which is almost always the case for technical reports involving multiple firms. Typically, the words flow like rocks over a waterfall: quickly and clumsily. Even the charts and graphs contain mistakes!

Have at least two people who have never seen a document, yet still know the subject matter, review both its draft and final versions before submittal.

Why do organizations spend so much money submitting seriously flawed documents? The most common reasons are poor time management, depending on computerized spell check programs, a basic lack of good grammar skills and assuming someone else will catch mistakes.

With private companies, it is all about the chase — looking for that next big opportunity. For public agencies, the focus is on funding for the next project. In both cases, quality in document delivery slips between the proverbial cracks far too often.

As my ole Texas daddy preached, "*Money isn't the most important thing in life, but whatever comes second is a long way down the road!*" Well-written, professionally edited reports and proposals probably rate somewhere in third place, right behind experience.

Vesta Rea-Gaubert

Vesta Rea-Gaubert is the principal of Vesta Rea & Associates, a transportation public relations/ marketing firm in Houston founded 25 years ago. She has published articles in more than 100 magazines and is a former corporate pilot.

Bill of Flights

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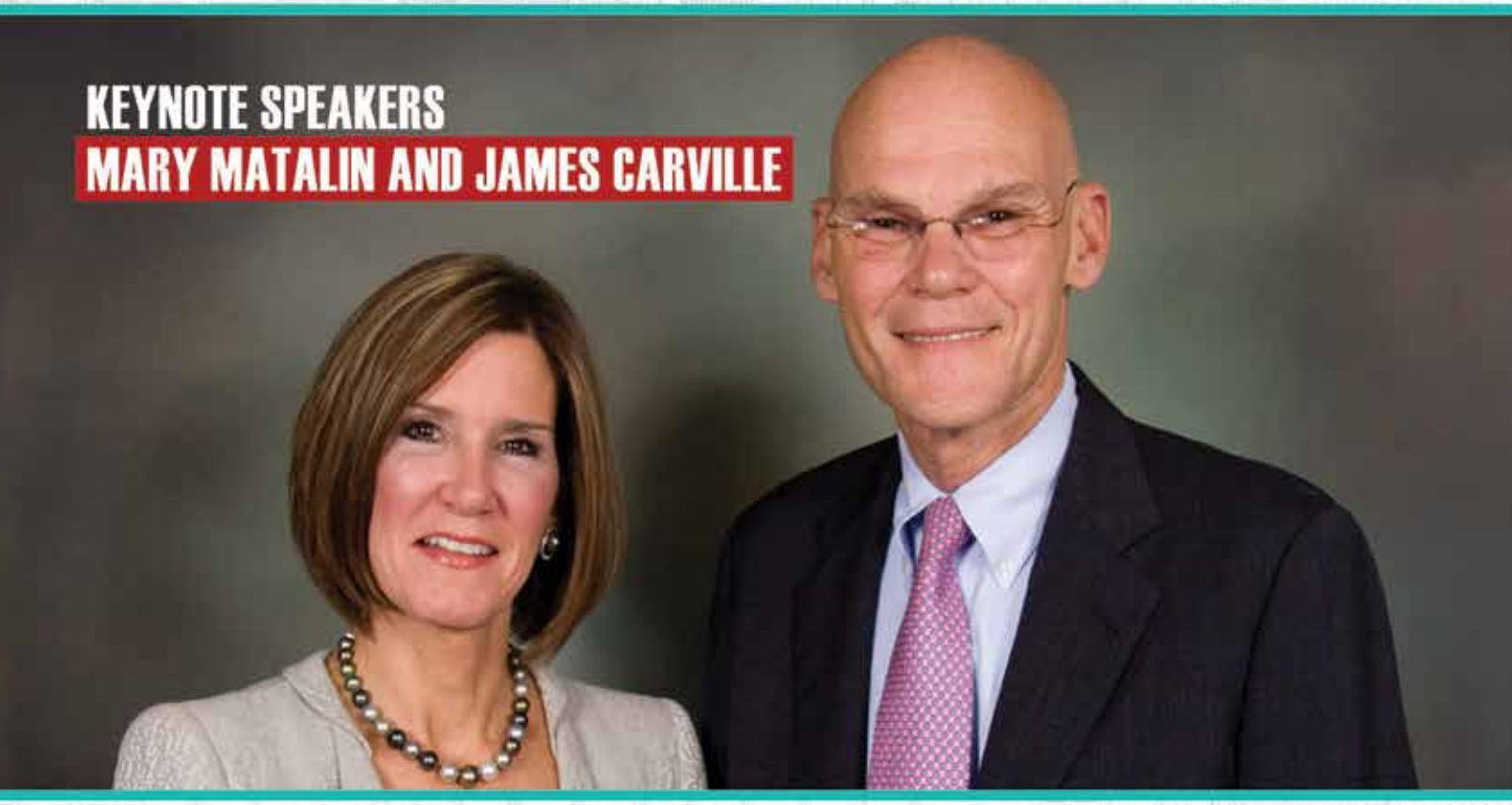

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WELCOME FROM THE HOST

Atlanta Aerotropolis Alliance

ABOUT THE HOST:

The Atlanta Aerotropolis Alliance (the Alliance) will work to leverage the economic potential created by Hartsfield-Jackson Atlanta International Airport. The Alliance consists of businesses, local governments, and other stakeholders located within or with a vested interest in the greater airport area. Working with existing organizations and efforts, the Alliance will coordinate economic development, strategic planning, and other cross-discipline and cross-jurisdiction issues.

PORSCHE

Ladies and Gentlemen:

I am truly honored, on behalf of the Atlanta Aerotropolis Alliance, its board members, and its partner organizations, to welcome the 2015 SMART Airports & Regions Conference to metropolitan Atlanta, Georgia.

As I travel around the country and the world, I have the opportunity to see many airport facilities and operations. Few, if any, rival the sheer volume of passengers seen here at Hartsfield-Jackson Atlanta International Airport, the world's busiest, most efficient, and I think best and best managed airport. We are looking forward to showing it to you.

I also see how airports in Amsterdam, Paris, and Frankfurt are serving their metropolitan regions as hubs of business activity, centers of community activity and culture, and major players in economic growth. That is why last year we joined with the Atlanta Regional Commission in creating the Atlanta Aerotropolis Alliance, a group of dedicated business and community leaders and public officials from the communities around Hartsfield-Jackson who are driven to making the region's biggest economic engine one of its biggest draws for major corporate headquarters, as well as for technology, logistics, and manufacturing.

We are well on our way to creating a true aerotropolis in metropolitan Atlanta and have much to show inside and outside the fence; but, we still have much to learn from people like you. I invite you to join the Alliance and the wider Atlanta community at the SMART Airports & Regions Conference and Exhibition. It promises to be inspirational, educational, and a lot of fun.

See you there!

Very truly yours,

Joe Folz
Chairman of the Board of Directors,
Atlanta Aerotropolis Alliance, Inc.

ABOUT THE EVENT

SMART Airports & Regions will be a two-day Conference and Exhibition hosted in Atlanta, GA, USA, May 4-6, 2015.

The event will be jointly hosted by The Atlanta Aerotopolis Alliance (AAA) and Hartsfield-Jackson Atlanta International Airport (HJAIA) and organised by Aviation Media.

Hartsfield-Jackson
Atlanta International Airport

ABOUT THE AIRPORT:

Hartsfield-Jackson Atlanta International Airport (ATL) is owned by the City of Atlanta and operated by the Department of Aviation as an enterprise fund using only its funds for operations and capital development. ATL occupies a 4,750 acre site in Clayton and Fulton counties about ten miles south of downtown Atlanta. It is classified as a large hub by the Federal Aviation Administration (FAA) and is the principal air carrier airport serving Georgia and the south eastern United States. ATL serves as a primary transfer point in the national air transportation system and is the world's busiest airport handling more than 95.5 million passengers and over 930,000 aircraft operations.

Hartsfield-Jackson
Atlanta International Airport

Greetings:

On behalf of the entire Hartsfield-Jackson team, it is my honor to welcome the 2015 SMART Airports & Regions Conference and Exhibition to Atlanta.

With award-winning efficiency and a storied history of welcoming guests during the 1996 Centennial Olympic Games, two Super Bowls, and four NCAA Men's Final Fours, Hartsfield-Jackson is well-prepared to welcome attendees of the 2015 SMART Airports & Regions Conference and Exhibition.

Perhaps the greatest responsibility of any airport is to serve as its community's chief economic development tool for the creation of jobs and the growth of wealth for its residents. One way our industry is fulfilling that responsibility is by taking meaningful and decisive action to capitalize on airports' proven abilities as engines of prosperity for the regions they serve.

It is for this reason that we've embraced the Aerotropolis concept, and we are excited over the wealth of potential stemming from the creation of the Atlanta Aerotropolis Alliance. The Aerotropolis model is an actionable approach for airport-driven economic development. The Alliance will play a major role in forging Hartsfield-Jackson into an even stronger economic development tool that is not just a hub for air transit, but a major center of commerce.

I encourage you to join us in Atlanta for the SMART Airports & Regions Conference and Exhibition. The opportunity it will provide to continue an industry-wide conversation on how proximity to our airports can dramatically fuel vital economic activity.

I look forward to seeing you.

Sincerely,

Miguel Southwell
Aviation General Manager

WHAT THE EVENT WILL COVER

Commercial airports enhance the movement of people, goods and services around the world, acting as economic engines that drive the local, state and global economy.

SMART Airports & Regions will serve as a fantastic insight into how airports worldwide are realising the strength of their transportation infrastructure assets and the economic multiplier impact to the regions they serve.

SMART Airports & Regions will attract a global audience of over 600+ key stakeholders in the airport and airport area planning, construction and development community, from senior airport executives, local/ regional government, urban planners, real estate & land developers, economic development agencies, tourist boards, airport investors/ financial community, architects, key airport partners and suppliers and many more...

EVENT VENUE

Georgia International Convention Center
Salon 5 / International Ballroom
2000 Convention Center Concourse,
College Park, Atlanta, GA 30337, USA

EVENT HOTEL

Atlanta Airport Marriott Gateway
2020 Convention Center Concourse,
Atlanta, GA 30337, USA

EVENT SCHEDULE

DAY ONE - May 4, 2015 (Pre Conference)
Welcome Reception
DAY TWO - May 5, 2015
Conference Day 1 (Plenary) & Gala Dinner
DAY THREE - May 6, 2015
Conference Day 2 (Concurrent streams) & Farewell Reception

PROGRAMME INFORMATION CONTACT

Andrew Hazell
Commercial Director
AndrewH@SAandR.com
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CONFERENCE PROGRAMME

DAY ONE 1

CONFERENCE WELCOMES

CHAIRMAN:
Kiran Merchant, CEO, DY Consultants
SPEAKERS:
Kasim Reed, Mayor, City Of Atlanta*
Jack Longino, Mayor, College Park*

Welcome from the Atlanta Aerotropolis Alliance:
Miguel Southwell, Aviation General Manager, Hartsfield-Jackson Atlanta International Airport
Joe Folz, President, Atlanta Aerotropolis Alliance, General Counsel Porsche Cars North America
Doug Hooker, Executive Director, Atlanta Regional Commision

THE CNN SMART 360 DEBATE- IN ASSOCIATION WITH AND POWERED BY: CNN

The SMART 360 will bring together CEO level aviation leaders for a dynamic, fast paced panel debate. CNN and our panel members will explore and discuss the positive impact aviation has on economic development, social mobility, job creation and regional growth, involving interactive questions from the audience and the social media blogosphere!

MODERATOR:
Christine Romans, News Anchor & Chief Business Correspondent, CNN
SPEAKERS:
Miguel Southwell, Aviation General Manager, Hartsfield-Jackson Atlanta International Airport
Richard Anderson, Chief Executive Officer, Delta
Craig Richmond, President & Chief Executive Officer, Vancouver Airport Authority
Emilio Gonzalez, Aviation Director, Miami-Dade Aviation Department
Mark Gale, Chief Executive Officer, Philadelphia International Airport

REFRESHMENT BREAK

SESSION 1: VIEW FROM THE TOP: AIRPORT LEADERS

Airports are rightly recognised as engines for commerce, job creation and development at the global, national and regional level.

How are airports developing and planning to keep pace in this highly competitive market place?

- ✈ The vision
- ✈ The regulatory framework
- ✈ Serving the community
- ✈ Stakeholder alignment
- ✈ Securing investment

CO CHAIRMAN:
Dr. Sotiris Pagdadis
SPEAKERS:
Huntley Lawrence, Deputy Director, Aviation Department, Port Authority of New York & New Jersey
Lance Lyttle, Chief Operating Officer, Houston Airport System
Elisabeth Le Masson, Delegate for Sustainable Development/ Member of the Board of Directors of Hubstart Paris®
Pieter van der Horst, Senior Real Estate and Airport City Developer, Schiphol Real Estate
Katrin Stary, Asset Management, Flughafen Berlin Brandenburg

LUNCH

SESSION 2: THE AIRPORT & AIRPORT AREA MASTER PLAN

Incorporating the airport, area, commerce corridors and wider region connectivity into the overall development plan.

- ✈ Identifying future airport requirements
- ✈ Adapting to change - short, mid and long-term planning
- ✈ Airport and city connections

CO CHAIRMAN:
Dr Sotiris Pagdadis
SPEAKERS:
Rhonda Hamm-Niebruegge, Executive Director, Lambert International Airport
Monica Lombrana, Director of Aviation, El Paso International Airport
Chris Curry, Director of Aviation, City of Tallahassee
Tim Zeis, Chief Operating Officer, Cincinnati/ Northern Kentucky International Airport
Roddy Boggus, Global Market Leader, Parsons Brinckerhoff

GALA DINNER EVENING

DAY TWO STREAM 1 2

CONFERENCE PROGRAMME

SESSION 4A:
In association with: ACC

SUSTAINABLE AIRPORTS – LEADING THE WAY IN ENVIRONMENTAL AND COMMERCIAL EXCELLENCE

Aviation is a key component of business, social mobility and economic development.

How do we, in aviation, build and develop successful infrastructure assets that will benefit us now and for future generations.

- Striving for carbon neutrality
- Community engagement programmes and initiatives
- Streamlining airport operations and movements
- Noise mitigation

MODERATOR:

TJ Schulz, President, Airports Consultants Council (ACC)

SPEAKERS:

Thella Bowens, President & Chief Executive Officer, San Diego County Regional Airport Authority

John Bergener, Aviation Planning Director, San Francisco International Airport

Michael J Cheyne, Director Asset Manager and Sustainability, City of Atlanta Department of Aviation

Rian Burger, Principal, Stantec

Pierre Loyer, Vice President, Cofely Airport Services

REFRESHMENT BREAK

SESSION 5A:

INNOVATIVE AIRPORT DESIGN & DEVELOPMENT

Designing and future proofing airport terminals and amenities to keep pace in the global market.

- Airport design & construction
- Architectural excellence - creating a brand
- Regional place making
- Planning for growth
- SMART intermodal transportation systems

MODERATOR:

Shannetta Griffin, Senior Director, Planning and Development, Indianapolis Airport

SPEAKERS:

Gary Summerlin, Aviation Engineer, Senior Design Manager, Hartsfield-Jackson Atlanta International Airport

Alan Howell, Senior Airport Architect, Airport Development Department, Metropolitan Airports Commission

Gregg Wollard, Snr Airport Planner, Metropolitan Washington Airports Authority

Dave Tomber, Aviation planning, program manager, Port of Seattle, Seattle - Tacoma International Airport

Eric Peterson, Principal & **April Meyer,** Principal, Alliance

LUNCH

SESSION 6A:

AIRPORT CENTRIC DEVELOPMENT – LAND USE, REAL ESTATE & COMMERCIAL DEVELOPMENT

Mixed commercial land use and airport area development are key drivers in boosting airport revenues, job creation and attracting big business to the airport locality.

Exploring creative strategies for airport commercial development.

- Commercial clusters
- Office & retail parks
- Airport hotels
- Airport corridor development

MODERATOR:

Chris LeTourner, President & Chief Executive Officer, MXD Development Strategists

SPEAKERS:

Gregory C. Owens, Assistant Director of Business Retention & Development, Miami-Dade Aviation Department (MDAD)

Dan Poremba, Managing Director- Airport City Development, Denver International Airport

Geoff Herdman, Director, Real Estate Development, Edmonton International Airport

Mitch Weber, President, Heffner & Weber (Developer of the BWI Aerotropolis)

Matt Taylor, National Director Land use & Market strategies, C&S Companies

REFRESHMENT BREAK

SESSION 7A:
In association with: ARN

DRIVING NON AERONAUTICAL REVENUE STREAMS

The importance of generating new revenue streams is integral to airport profitability. How can a creative, modern mix of concessions, technological innovation and other revenue channels boost profits and enhance the airport's sense of place?

- Duty free
- Food & Beverage - high street names and local flavours
- Retail - can airports operate as new generation shopping malls
- Car parking - revenue & technology
- Airport advertising

MODERATOR:

Ramon Lo, Associate Publisher, Airport Revenue News

SPEAKERS:

Michael Smith, Aviation Deputy General Manager, Commercial Development, City of Atlanta Department of Aviation

Steve Baker, VP, Business Administration, Metropolitan Washington Airports Authority

Brad Miller, Corporate Development Director, Manchester Airports Group (MAG)

Tom Marano, President, Air Serv/ABM

Theresa Hughes, Chief Executive Officer, Chauntry

CONFERENCE PROGRAMME

CONTACT

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www.SAandR.com

DAY TWO STREAM 2

SESSION 4B:
AIR CARGO AND AIR SERVICE DEVELOPMENT

Global connectivity is crucial for air intensive sectors such as high-tech, big pharma, financial and business services, all of whom demand speed, agility and connectivity.

How do airports, cargo companies, airlines and regions collaborate and benefit to ensure the best possible smart air cargo facilities and integrated transport links?

- Cargo property development
- World- class cargo facilities
- Linked up logistical networks
- Air service development

SPEAKERS:

Skip Miller, Executive Director, Louisville Regional Airport Authority
Vivica Brown, Interim Assistant General Manager, Hartsfield-Jackson Atlanta International Airport
Joachim von Winning, Senior Project Director Cargo Development , Fraport AG
Chip Gentry, VP, Air Service Development, Montgomery Area Chamber, Montgomery Regional Airport
UPS Representative*

REFRESHMENT BREAK

SESSION 5B:
SMART AIRPORTS – THE LOGISTICS OF PEOPLE & PRODUCTS

SMART technologies and innovations are revolutionising the way passengers and air based commerce move around the globe. How are airports and regions adopting SMART methodologies

- Terminal technology
- Intelligent Transport Systems (ITS)
- Transit
- Customer centric solutions
- Airport security and smart checkpoints
- Smart passenger processing

SPEAKERS:

Dominic Nessi, Deputy Executive Director/ Chief Information Officer, Los Angeles World Airports
W.S Andy Song, Senior Manager, International Relations, Incheon International Airport Corporation
Maurice Jenkins, Division Director, Information Systems, Miami International Airport*
SITA Representative
Alexander Pfurr, Chief Executive Officer, Airport Systems, ThyssenKrupp

LUNCH

SESSION 6B:
"THE BUSINESS CASE" – CHOOSING THE AIRPORT AREA AS NEXT GENERATION BUSINESS LOCATIONS

Why Airports? The big business/company/site selector perspective on locating on and around airports and regions.

- Incentive schemes
- Free trade zones
- Connectivity
- Highly skilled labour/work force pool
- Quality of life

MODERATOR:

Jason Hickey, President, Hickey & Associates

SPEAKERS:

Mike Brown, Strategic Planner, Vancouver Airport Authority
Joe Folz, General Counsel, Porsche Cars North America

REFRESHMENT BREAK

SESSION 7B:
SMART AIRPORTS & COMPETITIVE CITIES – A COLLABORATIVE PLANNING APPROACH

What are the conflicting considerations of airport's, regions and the wider stakeholder community?

How can a framework of collaboration keep on track the vision and a clear direction for success?

- Keeping sight of the goal.
- Regional governance.
- Competing city districts and regions.
- Economic development

SPEAKERS:

Tracy Lakerman, CEO, Tourism Richmond
Shelley Lamar, Manager,Community Affairs, Hartsfield-Jackson Atlanta International Airport
Chad Bowman, Aerotropolis Project Manager, Division of Planning Development, Memphis International Airport
Chris LeTourner, President & CEO, MXD Development Strategists

Programme and Speakers subject to change without notice.
Programme correct as of February 19, 2015.

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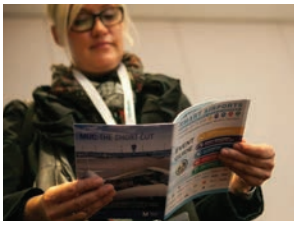

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- Full delegate list in excel format one month prior to the start of the conference
- Four complimentary conference passes
- Opportunity to have full page advertisement (supplied by sponsor) in the conference event guide

$20,000

GOLD SPONSORSHIP

PRESENTED AS GOLD SPONSORS OF SMART AIRPORTS AND REGIONS

- High visibility of corporate logo branding in the conference room, on sponsor boards and exhibition signage
- High visibility of corporate logo branding on all marketing and promotional material including conference website (with corresponding links), brochures, event guide
- Full conference moderator role or workshop speaker role
- 10 x 10 Sqft exhibition booth
- 100 word company profile on the website and official event guide
- Company two-sided flyer (supplied by the sponsor) to be inserted into the official conference delegate bags or seat drops
- Full delegate list in excel format one month prior to the start of the conference
- Three complimentary conference passes
- Opportunity to have half page advertisement (supplied by sponsor) in the conference event guide

$15,000

TO REGISTER OR FIND OUT MORE VISIT:

www.SAandR.com

SALES CONTACT

Andrew Hazell
Commercial Director
AndrewH@SAandR.com
+44 0208 831 7518

Or Visit
www.SAandR.com

SILVER SPONSORSHIP

PRESENTED AS SILVER SPONSORS OF SMART AIRPORTS AND REGIONS

- High visibility of corporate logo branding in the conference room, on sponsor boards and exhibition signage
- High visibility of corporate logo branding on all marketing and promotional material including conference website (with corresponding links), brochures, event guide etc
- 50 word company profile on the website and official event guide
- Full delegate list in excel format one month prior to the start of the conference
- Two complimentary conference passes
- Complimentary seat drop of company promotional brochures.

$8,000

WELCOME RECEPTION SPONSOR

PRESENTED AS WELCOME RECEPTION SPONSORS OF SMART AIRPORTS AND REGIONS

- Five minute welcome speech to all welcome reception attendees alongside the hosts
- High visibility of corporate logo branding in welcome reception area
- Full delegate list in excel format one month prior to the start of the conference
- 200 word company profile on the website and official event guide
- Company brochure (supplied by the sponsor) to be inserted into the official conference delegate bags or seat drops
- Four complimentary conference passes
- Opportunity to have full page advertisement (supplied by sponsor) in the conference event guide

$20,000

SMART AIRPORTS®
PREPARING FOR 2030 & BEYOND
& REGIONS
ATLANTA
MAY 4–6, 2015
www.SAandR.com

OTHER WAYS TO SUPPORT THE EVENT

DELEGATE BAG	$10,000
DELEGATE FOLDER	$10,000
LANYARDS	$5,500
LUNCH SPONSORS (2 AVAILABLE) DAY ONE OR DAY TWO	$8,000 EACH
BREAKFAST SPONSORS (2 AVAILABLE) DAY ONE OR DAY TWO	$5,500 EACH
COFFEE BREAK SPONSOR (4 AVAILABLE) MORNING OR AFTERNOON DAY ONE OR DAY TWO	$5,500 EACH
EXHIBITION HALL SPONSORSHIP	$10,000
REGISTRATION DESK	$10,000
WIFI SPONSORS	$5,500
PROMOTIONAL ITEM IN DELEGATE BAG	$3,500
SEAT DROP (FOUR AVAILABLE)	$3,500
HOTEL KEY CARD SPONSORS	$5,000
WATER SPONSORS	$5,000

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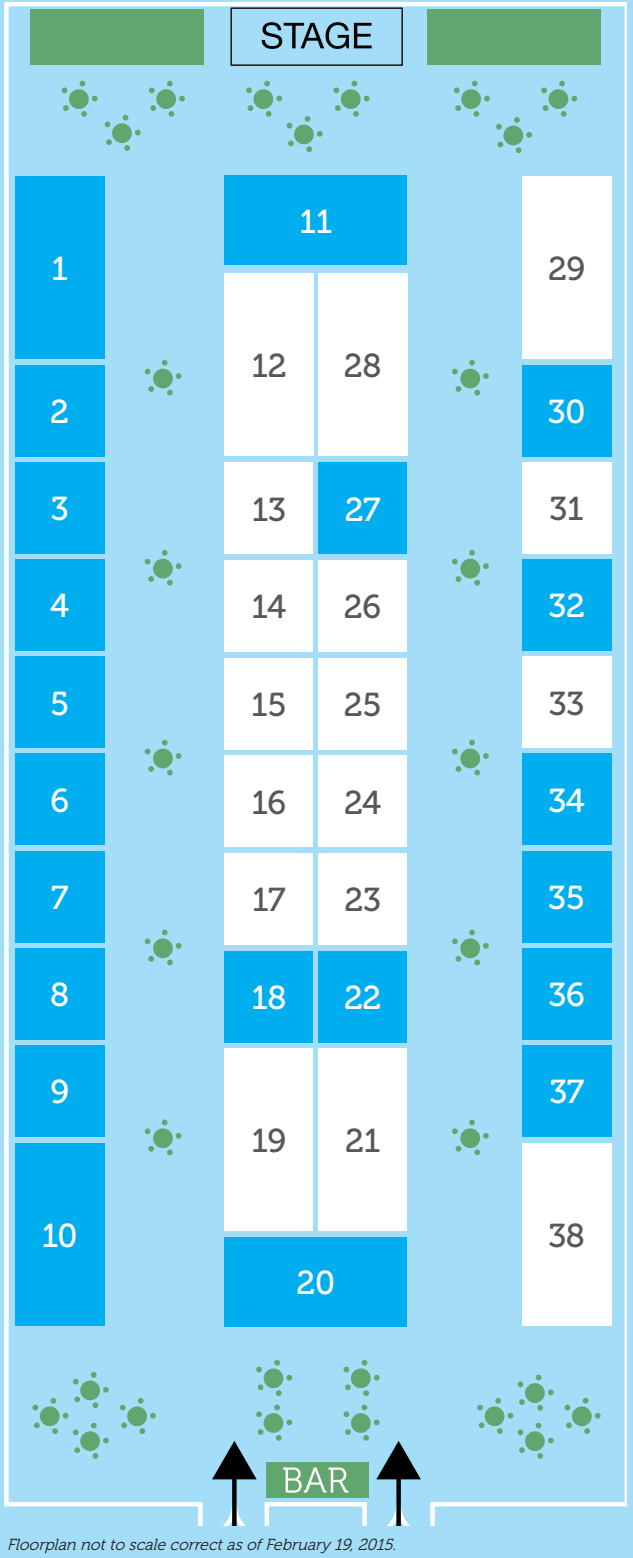
EXHIBITION OPPORTUNITIES



Floorplan not to scale correct as of February 19, 2015.

KEY

Available

10 x 10 Sqft single

20 x 10 Sqft double

Sold

Refreshments

WHY EXHIBIT

- SA&R is a unique opportunity to showcase your products and services to this targeted and hard to reach audience.
- Meet over 600 delegates
- Raise the profile of your business
- Align your brand

RATES

Single Booth (10x10 Sqft)
Pipe and Drape
Includes 2 x conference passes
$3,950

Double Booth (20x10 Sqft)
Pipe and Drape
Includes 4 x conference passes
$7,900

Quad Booth (20x20 Sqft)
Floor Space Only
Includes 6 x conference passes
$15,800

EXHIBITORS

1	TOURISM RICHMOND / VANCOUVER AIRPORT AUTHORITY
2	MXD DEVELOPMENT STRATEGISTS
3	SITA
4	KOOLHAUS GAMES INC.
5	AIRPORT IMPROVEMENT
6	JBT AEROTECH
7	TRANSCORE
8	THYSSENKRUPP
9	ALLIIANCE
10	ERMC
11	ATLANTA AEROTROPOLIS ALLIANCE
18	CHAUNTRY
20	ABM
22	AIRPORT CONSULTANTS COUNCIL (ACC)
27	COFELY AIRPORT SERVICES
30	HOJEIJ BRANDED FOOD
32	KOVA, CORP.
34	AIRPORT WORLD
35	PROVINCE ELECTRIC
36	PARABIT
37	VANDERLANDE

TO REGISTER OR FIND OUT MORE VISIT:

www.SAandR.com

REGISTRATION FORM

SMART AIRPORTS® PREPARING FOR 2030 & BEYOND & REGIONS ATLANTA MAY 4–6, 2015 www.SAandR.com

PERSONAL DETAILS

Title: _____ First Name: _____ Last Name: _____

Job Title: _____ Name of Organisation: _____

Postal Address: _____

_____

City/State: _____ Postcode: _____ Country: _____

Telephone: _____ Fax: _____

Mobile Telephone: _____ Email: _____

REGISTRATION FEES:

Registration includes entrance to conference and networking events	STANDARD RATE
☐ AIRPORT ATTENDEE	$650
☐ NON AIRPORT ATTENDEE	$1050

PLEASE CONTACT CHARLOTTE McCORMACK FOR MULTIPLE REGISTRATIONS OF 3 OR MORE PEOPLE.

NETWORKING ACTIVITIES (Please tick those you wish to attend)

☐ WELCOME RECEPTION (Monday, May 4, 2015) ☐ GALA EVENING (Tuesday, May 5, 2015)

PAYMENT I will pay a total of $ .....

☐ **Cheque or Bank Draft** made payable to Aviation Media Ltd, 91-93 Windmill Road, Sunbury-on-Thames, Middlesex TW16 7EF, UK

☐ **Direct bank transfer** to HSBC Bank plc, 67 George Street, Richmond, Surrey, TW9 1HG, UK

☐ **US Dollar Account** Account no: 76043357, Sort code: 400515, IBAN: GB36 MIDL 4005 1576 0433 57, SWIFT: MIDL GB22

☐ **Visa, Mastercard or American Express** credit card as authorised below:

Card Type: ..... Card Number: .....

Start Date: ..... Expiry Date: ..... Security Number: .....

Name on Card: ..... Date of Payment: .....

Billing Address: .....

.....

Company VAT number: .....

IF YOU WISH TO PAY IN £ STERLING OR € EUROS, PLEASE VISIT THE WEBSITE

Aviation Media occasionally makes its delegate lists available to selected industry third parties. By completing this form, attendees give permission to pass their contact details to attendees and exhibitors to this event. If such permission is denied please tick this box. ☐ By providing your details you agree to Aviation Media contacting you about this or other relevant events or publications by post or email. If you do not wish to receive these please tick the box. ☐ Aviation Media has a 30-day payment policy and registration and entrance will only be confirmed (as well as joining instructions sent out), once full payment is complete. Conference fees include attendance at the conference, all social networking activities and all conference documentation. **Delegate Cancellation Policy:** Cancellations must be made in writing and sent to Aviation Media (charlotte@airportconference.com). Cancelling more than 6 months before the event will incur a 20% administrators fee. Cancelling 2-6 months before the event will incur a 50% charge. No refunds will be issued within 2 months of the event taking place. No-shows will be billed for the full amount and will NOT be refunded.

Please register me for this event.
I agree to abide by these terms.

Signature Required:

.....

REGISTRATION INFORMATION:

Charlotte McCormack, charlotte@SAandR.com
Tel: +44 208 831 7509, Fax: +44 208 831 7501

Or register online at www.SAandR.com