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Publisher

Paul H. Bowers

paulbowers@airportimprovement.com 262.510.7832

Editorial Consultant

Rebecca Douglas

rebeccadouglas@airportimprovement.com 815.282.6744

Creative & Production Director Becker 505, LLC - Chad Becker

chad@becker505.com

Circulation Director

Lisa Monday

lisamonday@airportimprovement.com

Webmaster

matttews@airportimprovement.com







Contributing Writers

Jennifer Bradley, Victoria Soukup Jensen, Rebecca Kanable, Nicole Nelson, Robert Nordstrom, Jodi Richards, Kathy Scott, Michael Schwanz, Kristin Vanderhey Shaw, Dan Vnuk

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Advertising

Paul H. Bowers

paulbowers@airportimprovement.com 262,510,7832

Adrienne Gibson

adriennegibson@airportimprovement.com 262.844.4368

Carie Grall

cariegrall@airportimprovement.com 608.770.6899

Tom Novotny

tomnovotny@airportimprovement.com 414.702.0678

Reprints

Paul H. Bowers

paulbowers@airportimprovement.com 262.510.7832

Editorial Advisory Board

Barry Bateman

General Mitchel Int'l Airport

Paul Cudmore

Eagle Integrated Solutions

William Fife

Peer Review Consultant

David Janis

J&B Aviation Services

Glenn S. Januska

Casper/Natrona County Int'l Airport

Andrew Platz

Mead & Hunt

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McKinney Airport Development Corporation



Managing Leakage

When playing the word association game, "leakage" would likely prompt answers about diapers and plumbing. But leakage appears everywhere. As publishers, we deal with leakage in areas such as circulation and advertising. As you'll discover in this issue, airports deal with leakage, too. We have two stories in this issue involving leakage, and they couldn't be more different from one another.

Surprisingly, the first of the stories (Page 12) is quite positive in nature. Bellingham International Airport is an airport that is benefiting immensely from leakage. Its leakage is from Canadian citizens streaming across the border to travel from Bellingham for substantially less money than flying from airports closer to home. This story is not about the "how and why" of differences in costs for air travel for Canadians, but rather a case study of how an airport along the Canadian border is dealing with the growth opportunities the associated leakage is presenting it. Naturally, there are two sides to every leak. For airports on the Canadian side of the border, the word "leakage" likely connotes what sometimes leaks out of diapers and plumbing fixtures. It's an extremely tough business condition to face day after day.

Our second story involving leakage (Page 18) addresses the losses that airports experience when off-airport parking companies siphon away revenue without making associated investments in the airport community. I'm sure there is more than one example of this taking place; this story highlights a relative newcomer on the scene: Greenbee Parking. Unless you're actively looking for this company, you may not even know they're raiding your cookie jar. But in many cases, they are! This story not only tells you more about

they are! This story not only tells you more about how the company enters a market and operates without a physical footprint; it also details what some airports are doing to compete with it.

For airports, leakage is a reality that will always exist in some regard. The challenge is to find a way to manage it effectively — no matter what side of the leak you are on.

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The Chemical Company



New Snow Removal Equipment & Procedures Pay Off at Indianapolis Int'l

By Dan Vnuk



factsfigures

Project: Overhaul of Winter Operations Strategy

Location: Indianapolis Int'l Airport

Plan Specifics: Shift from separate plow & broom vehicles to multi-function equipment; update crew procedures & training

Total Cost: \$5.5 million New Equipment: 9 MB5s

Manufacturer: M-B Companies

Anticipated Labor Savings: \$300,000/yr.

2012 Traffic: 7.3 million passengers;

2 billion lbs. of cargo

Carriers: 8 major passenger airlines; second-largest FedEx operation in the world

Of Note: No weather-related closures since 1978

It's almost as if Indianapolis International Airport (IND) was tipped off that this would be a particularly harsh winter in the Midwest. Last summer, the airport completely revised its winter operations by implementing new procedures, taking delivery of millions of dollars in new snow removal equipment and presenting a new curriculum of crew training.

When winter hit, IND was ready to test its new game plan. And what a test it was. Seemingly endless weeks of heavy snowfalls were followed by brutal sub-freezing temperatures. By mid-February, the airport had received more than 51 inches of snow, surpassing its previous snowfall record with plenty of winter still ahead.

Have the changes and investments paid off? The answer is a resounding "yes" from Michael Medvescek, senior director of Operations for the Indianapolis Airport Authority. "In late December 2013, the equipment,



operators and plans were really put to the test when we were on the receiving end of 12 inches of snow with 5-foot drifts," recalls Medvescek, C.M., ACE, "The weather event was one for the record books, but we were able to keep two of our three runways open. If it wasn't for the new units and highly skilled drivers, we would not have been able to keep the airport open. Their speed, power and reliability were the keys to our success."

"We can plow much faster," he continues, reporting that crews now clear a two-mile long runway, edge-to-edge, in 12 minutes. Clearing the same area used to take 25 to 30 minutes. "We can still produce 7-foot tall windrows, but do it twice as fast as before." he notes.

On the labor front, the airport expects to save \$300,000 per year without having to cut staff. This winter, it saved even more, reports Medvescek. "The manpower savings were really eye-opening," he reflects, explaining that the airport previously used contractors to plow non-movement areas. "We are no longer paying outside crews \$240 an hour overtime



A new fleet of MB5 plow/broom vehicles helps IND clear runways faster.

for waiting around. Now, we can use our own crews, who are already FAA- and TSA-approved, who are more efficient."

Located near downtown Indianapolis, IND averages 138 daily flights to 34 nonstop destinations for eight major airlines. In 2012, it served approximately 7.3 million passengers. It's also the eighth largest cargo center in the United States and is the home of the second-largest FedEx operation in the world. More than 2 billion pounds of cargo were managed at the airport in 2012, making it an important catalyst for economic development in central Indiana and the Midwest. One of the first new U.S. airports to open since 9/11, IND cut the ribbon to its new 1.2 million square foot airport complex in November 2008.

Planning for Success

With 25 years in airport operations, Medvescek has seen plenty of winters come and go. He's also been on the frontline of snow and ice removal efforts that have worked and some that have failed. Given his tenure and firsthand experience, Medvescek knew he could make significant improvements to IND's winter operations if given the budget and opportunity to select the right equipment. It's been said that failure to plan is a "plan for failure," and he was intent on avoiding that fate.



"First, I sought advice on what works best from other airports like ORD and MKE that experience snowy winters," he relates. "Then, I had to lobby the airport authority board for funding."

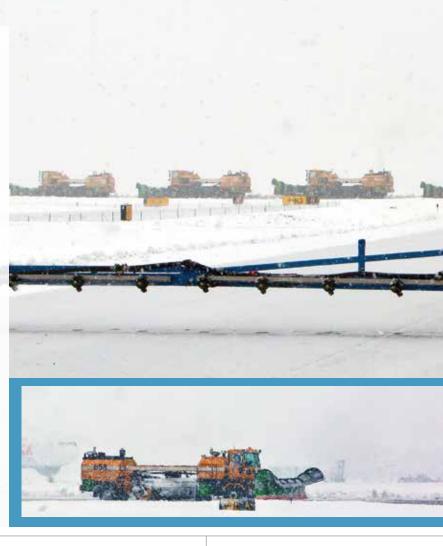
Medvescek crafted a strategic plan that required \$5.5 million to enact and is projected to reduce expenses 40% over the next 10 years. "What 'sold' them is the anticipated cost savings, which are pretty dramatic because we would use fewer pieces of machinery, burn less fuel with less pollution, deploy our operators more efficiently and no longer rely on outside contractors," he explains.

Increased safety for airport workers, airline crews and passengers was the biggest factor that helped secure approval from both the airport authority and IND's carriers, he adds.

"The complete change in winter ops couldn't have come at a better, or worse, time — depending on how you look at things," reflects Medvescek. "So far this winter, we have had 33 inches of snow on the ground, with an average of 24 inches, plus bitter cold weather. We have had 18 inches over a 24-hour period. However, we are able to learn something new after each event."

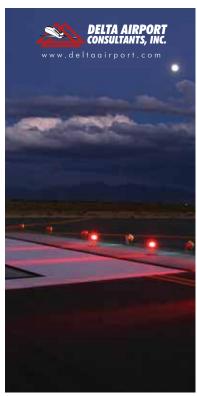
Equipment & Labor Changes

Switching to multi-function vehicles — MB5s from M-B Companies — allowed IND to nearly cut its fleet in half, from 16 pieces of equipment to nine,









and reduce its fuel consumption accordingly. Some of the older equipment was retained for off-ramp plowing; other airports quickly snapped up the rest.

Previously, IND's main fleet included dedicated plows and front-mounted brooms. Now, the brooms and plows are combined in one unit, so there are fewer pieces of machinery operating in movement areas. The fundamental equipment shift provides an important safety enhancement on runways, taxiways and in other key areas, emphasizes Medvescek. "There's less chance for human error, less operator fatigue and, frankly, it's easier on me, who has to call the shots, as well," he explains.

Purchasing nine units from the same manufacturer and outfitting them with the same options makes things easier on drivers and mechanics alike, notes Medvescek. The airport now keeps fewer spare parts in inventory and can purchase filters and other preventive maintenance items in bulk at a discount. He also likes that MB products are built of 95% American-made components. "There's no waiting for parts, and they use Cat engines and Allison transmissions; so we can get parts overnight or even source them locally should we need them," he explains.

With an extra-tough winter for their initial tests, the units are eliciting positive reviews from IND personnel. "The MB equipment has been designed with efficiency and safety in mind, reducing operator fatigue. This is vital to airport operations, as our crews work a 12-hour shift," says Medvescek. "The cab is well designed, with good visibility and intuitive controls. So far, I've received only positive comments from the staff, with the main one being less tedium during the shift."

Summertime Sessions

Realizing that the new broom/plow vehicles would be more advanced, and much more computerized, than IND's previous equip-

ment, Medvescek included a "heavy training regimen" in the bid specifications for the new fleet. M-B Companies provided five days of onsite training for both operators and mechanics, accordingly. By requiring multiple days of manufacturer training, IND ensured that airport employees could be trained over all three of its shifts and eliminated the need to pay overtime for training.

Sessions were held last summer, when the nine new vehicles were delivered. "While we didn't have winter-like conditions, we had some foggy days with poor visibility," Medvescek recalls. "The drivers learned how to listen to the radio and follow the tail lights of the unit in front of them."

He likens the practices to a synchronized swim team, with the plows traveling up and down the airfield in unison, making coordinated turns and stops. "It's an impressive operation to witness." he reflects.

Medvescek is often proud of his crews and admires their willingness to battle extremely cold conditions with winds up to 30 knots and zero visibility. He considers it a noteworthy accomplishment that the airport has not closed for a weather event since the blizzard of 1978.

It's vital to keep at least two of the IND's three runways open at all times for passenger and cargo carriers, he adds. "FedEx is now 50 percent of landing fees, and they use 'heavies," he explains. "The company appreciates our record of keeping the airport open, because if their packages don't get where they are going overnight, it presents a negative impression on our airport and FedEx as a key business partner.

"The flying public and our staff deserve the safest operation possible. We believe we have the equipment to produce great results."

2

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Bellingham Int'l Adds Gates & Triples to Serve Canadian-Fueled Growth

Like many U.S. airports scattered along the Canadian border, Bellingham International Airport (BLI) in Washington has faced interesting challenges presented by a growing influx of Canadian travelers who cross the border for less expensive U.S. airfares. A \$38.5 million expansion project that ended in February,

however, seems to be just the tonic it needed.

Airport Director Daniel Zenk reports 20% to 25% growth in annual enplanements at BLI for the past 10 years and more than half of current enplanements are



Daniel Zenk

Canadian travelers. While

such growth is exhilarating, it also places enormous stresses on infrastructure and customer services. How will the airport meet the growing needs of travelers and airlines? How do airport officials develop long-term plans to meet those needs?

BLI is confronting such challenges head on. In 2010, the airport reconstructed its

single 6,700-foot-by-150-foot runway and taxiway (see Airport Improvement, Nov./Dec. 2010). More recently, it upgraded ramps from asphalt to concrete to accommodate larger aircraft, increased its number of parking positions from five to nine, added deicing containment on the north and south ends of the commercial ramp and expanded its terminal threefold.

The Port of Bellingham, which operates BLI and is overseen by three elected commissioners, had to decide whether to fund the recently completed expansion effort in a fiscally conservative pay-as-yougo manner or borrow funds to expedite improvements. Because the pay-as-you-go approach would have left the terminal under construction for nearly a decade, the Port Commission voted to borrow \$38.5 million through airport revenue bonds to abbreviate construction to three years and two phases.

Phase 1, which ended in June 2011, quadrupled the size of BLI's previous twogate boarding area to 20,000 square feet and added three gates. In Phase 2, completed in

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Terminal Size

By Robert **Nordstrom**

February 2014, BLI's terminal size increased from 27,000 square feet to 104,000 square feet.

"We expanded all functional areas, including Ticketing, baggage makeup and claim areas and TSA screening," Zenk reports. "We added new family-friendly restrooms; an animal relief area; free Wi-Fi throughout the terminal; a full-service airside restaurant, Scotty Browns, which we never had room for in the old terminal; and a smaller concession called Halibut Henry's, offering grab-and-go food and gift items."

Maintaining Operations

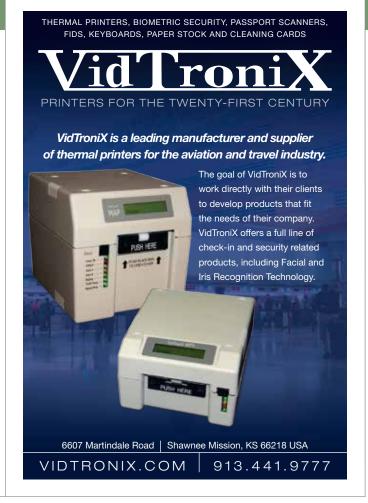
Zervas Architects worked to keep the airport operational and facilitate the flow of passengers through the terminal and gates while maintaining workspaces for employees and terminal tenants during the massive terminal expansion.



Terry Brown

"TSA had their requirements, the airlines had their requirements, and then there are building code considerations such as maintaining safe passageways and fire ratings," relates Terry Brown, president of the project's architect of record. "There are a lot of competing interests, especially for an airport like Bellingham that is moving from a rather unsophisticated bag-flight

rural airport with simple systems and two ticket counters to a modern facility with up to 20 ticket counters."





The architectural and design team made a fortuitous breakthrough early in the planning process when it learned that in the Bellingham area, transportation facilities share building code requirements with open malls. By using sprinklers and noncombustible construction materials, the team was able to ease construction planning and phasing considerably.

"Rather than having to subdivide construction into small compartments, we were able to open everything up without having to worry about segregating the building into small fire zone compartments," Brown explains. "It really simplified things from a construction standpoint; and even more important, it was a big cost savings. We were able to target funds to serve travelers rather than spending money on fire separation walls without sacrificing public safety."

Construction work began on both ends of the terminal and worked inward toward the central core of the building. The once overcrowded baggage claim area is now four times larger at 8,400 square feet. In 2000, BLI had 50 feet of bag slide. Today, travelers claim baggage from 450 feet of rotating conveyor in a more spacious, high-ceilinged lobby. A new checked baggage system inspects, sorts and transports baggage from check-in to aircraft loading.

The size of the ticketing lobby increased threefold, with space for 20 ticketing stations. A shared-use passenger processing

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system, provided by AirlT, gives airlines the flexibility to increase or decrease their number of workstations based on flight schedule demands. This allows the airport to build fewer overall workstations while accommodating the fluctuating customer demand that is standard in the industry. AirlT's Extended Airline System Environment (EASE™) is a "virtualized open technology that enables each airline to operate in its native passenger processing environment seamlessly, at a much lower cost than alternative common-use technologies," explains AirlT President and Chief Operating Officer Chris Keller.

The expansion also included directional signage leading visitors to the airport and digital displays to guide them to available parking spaces.

Building for the Future

URS worked to ensure that the design of the boarding gate and terminal facilities will be able to accommodate change and expansion. "We had to be generous when sizing some of the central spaces, knowing that growth will occur and these spaces will experience increased demands," explains Rob Ohm, the firm's



Rob Ohm

manager of aviation architectural services. "We oversized electrical and mechanical rooms so we would be prepared for installing more panels and equipment. On the airside gate lobbies, the design accommodates growth in both directions parallel to the runway. Similarly, the landside ticket lobby and baggage claim area are designed for the possibility of future expansion."

Installing the new baggage screening system while maintaining existing operations was particularly challenging. Makeup operations had to be moved to airside tents, and designers created a temporary pathway to move bags out of the screening area.

Jon Tesarik, project manager for Dawson Construction, describes the learning process involved when working at an operational airport: "It took a lot of collaboration and teamwork. The airport management coached us and walked us through the airport operations."

lon **Tosarik**

Jon **Tesaril**

Security was the most challenging aspect, he recalls. "Generally, we build 8-foot temporary walls to protect the public," says Tesarik. "At the airport, we had to take the wall all the way up to the ceiling to prevent someone from passing an object over the wall. When we were working on the new deplaning hallway, we maintained

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security by routing passengers through a back hallway used by employees rather than constructing temporary walls."

Ohm credits Adam Fulton, a senior project manager with the Port, for much of the project's smooth transitions and success. "His interest in minimizing tenant and passenger inconveniences while allowing the contractor an efficient construction process resulted in stakeholder satisfaction throughout the course of the project," explains Ohm. "Traditionally, in planning and design, we consider issues like scope, schedule and budget. When we talk about buildings, we talk about physical solutions that have length, width and height dimensions. At (BLI), we had to consider the fourth dimension of time."

Evolving Needs

Strategy was also key, notes Ohm: "If you start with too narrow of a focus, you paint yourself into a corner. We've tried to remain in a master planning mode: What's my next three or four steps beyond what I'm doing today? How do we make sure what we're doing today doesn't put up design roadblocks a few years from now? The trick is not to put something in the way that will incur unnecessary expenses down the road."

URS has seen design challenges change dramatically during the past 14 years it has worked with BLI. In 2000, the airport recorded 94,000 enplaned passengers and projected modest growth; and the number dropped to a post-9/11 low of 63,800 in 2003. Prior to 2004, Horizon Air was the only airline at BLI, and it only served Seattle. Since then, enplanements have increased to 595,000 in 2013, and four airlines — Allegiant Air, Alaska Airlines, Horizon Air and Frontier Airlines — now offer flights to destinations such as Palm Springs, Phoenix, San Diego, Denver, Las Vegas, Honolulu and others. In the past nine years, the airport has experienced a 500% increase in enplanements.

The prime reason for BLI's dramatic growth? Canadian travelers looking for a deal. Approximately 5 million Canadians travel to the United States to secure less expensive airfares, notes a study by The Conference Board of Canada. Located just

25 miles south of the border, BLI certainly gets its share.

A 2012 Canadian Airports Council study found that a family of four traveling to Hawaii saved \$1,300 round trip by flying out of BLI rather than Vancouver International Airport (YVR).

The fees add up, Zenk explains: "The cost to fly out of Vancouver is somewhere around \$22 per enplaned passenger. Then there's the GST (goods and services tax) and HST (harmonized sales tax). Plus, the U.S. Customs fee for flights into the U.S. is \$50 per person — \$100 round trip. Canadian travelers flying out of BLI pay \$3 per enplaned passenger. They pay a \$4.50 passenger facility charge, which is the same as in Canada, a security tax and that's it. By driving across the border, they also save the \$50 per person U.S. Customs fee. And parking and gas is cheaper as well."

BLI's subsequent growth has had a significant economic impact on its community. Construction of a new four-story, 150-room Holiday Inn breaks ground on airport property in March 2014 and is scheduled for completion in July 2015. Nearby, four other new hotels have either already been completed or are currently under construction.

Employment in businesses and airlines associated with the airport is up 61% in the last five years, to more than 700 people. And according to the Port's 2013 economic impact study, BLI brought \$70.3 million into the community.

Long-term projections suggest a plateauing in enplanement growth, Zenk informs. Nevertheless, he elaborates, "I believe our market is still underserved and there is great potential for more eastbound-westbound airline routes. We anticipate that over the next 20 years, we will be expanding the terminal further to the south and adding more gate space, terminal lobby space and vehicle parking. We have land to the south where we can move some of our general aviation hangars, and we are looking at possibly relocating our air traffic control tower."



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Fort Myers Airport Parking Coupons Are No Longer Needed to Save on Parking Costs According to Greenbee Parking (@Greenbeeparking)

Greenbee Parking has just announced that their new parking deals with completely revolutionize the airport parking experience for all. Travelers using the Fort Myers (RSW) airport will no longer have to depend on Fort Myers airport parking coupons to save on their parking costs from now on.

Fort Myers, FL (PRWEB) January 13, 2014 -- Greenbee Parking, a rising airport parking service, has just announced their latest parking deals which promise to negate all need for Fort Myers airport parking coupons from now on. Travelers using the busy Fort Myers (RSW) airport will no longer have to frantically look for deals and coupons to get some relief from steep travel expenses. Greenbee's innovative parking options, which include spots off site from the airport, will now ensure that they get great savings options round the year include spots off site from the airport, will now ensure that they get great savings options round the year without special promos and coupons. Greenbee's regular prices offer benefits that others can only offer on without special promos and coupons. Greenbee's regular prices offer benefits that others can only offer special occasions, a bonus that has made the young brand a great favorite already. With these innovative offers one can expect to save 30-75% on their regular travel budgets.

"We want our customers to know that great services can easily come in affordable prices," said Christine

Cooper – Marketing Coordinator, Greenbee Parking. "Furthermore, one has no need to look for special events

Cooper – Marketing Coordinator, Greenbee Parking coupons to save on their travel expenses. With us saving on such

Web-Based Booking Agent Presents Discounted Parking Competition in 70+ Markets By Kristin Vanderhey Shaw



factsfigures

Issue: New Parking Competitor **Company:** Greenbee Parking

Business Model: Company books travelers into hotel lots & existing off-airport parking facilities

How it Works: Customers pay in advance, bring a printed copy of their online confirmation to the participating lot & ride the hotel or off-site operator's shuttle to/from the airport

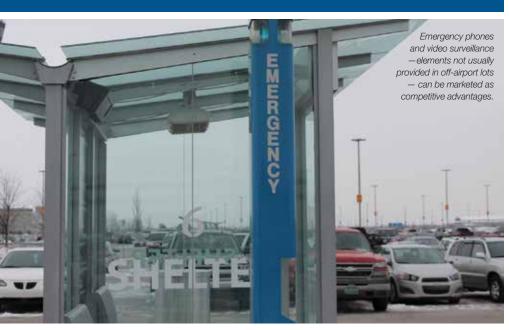
Pricing: Greenbee aggressively promotes its discounted rates, which range anywhere from 30% - 75% less than on-airport options.

There's a new parking competitor nipping at the heels of airports throughout the United States, but there are no new lots or facilities in sight. The company, Greenbee Parking, books travelers into parking lots at hotels and

The company, Greenbee Parking, books travelers into parking lots at hotels and existing facilities run by off-airport operators via its website, Greenbeeparking.com — at rates ranging anywhere from 30% to 75% less than airport prices. Passengers pay in advance, bring a printed copy of their online confirmation to the participating lot and ride the hotel or off-site operator's shuttle to and from the airport.

Growing quietly since its 2011 debut, the Denver-based business now operates in more than 70 markets across the country. Announcements of new locations and new hotel and off-site parking partners, however, seem to have exploded in the last six months.

The company pulls no punches in its promotions. "We are the better, cheaper solution to your SFO parking needs," was an opening salvo when it entered the San Francisco market. In Fort Meyers, FL, the company took a more specific approach, targeting the use of coupons and special promotions at Southwest Florida International Airport (see press release above). Greenbee's innovative parking options, which include spots off site from the airport, will now ensure that they get great savings options round the year without special promos and coupons."



The Best Defense ...

As Greenbee continues to market discounted off-airport parking in more and more cities, airports are tweaking their own parking programs and promotions to stay competitive. The staff at Indianapolis International Airport, for instance, is well aware of the Greenbee model and tactics.

"We're always concerned about competition, and we keep our eye on it," says Marsha Stone, senior director of commercial enterprise at IND. "There are already hotels



Marsha Stone

around our airport that offer parking to non-guests, so this program is familiar to us. We treat those hotels as off-airport parking operators, and they pay a per-trip fee. Operators are required to obtain a permit and have a transponder affixed in their vehicles to operate in our ground transportation center, and we have audit procedures to ensure the vehicles driving through this area are authorized and utilizing the transponder."

The airport is also making a comprehensive effort to increase the value of its parking and promote its offerings accordingly, adds spokesman Carlo Bertolini.



Carlo **Bertolini**

"Our economy lot is only \$9 per day, which is very reasonable," notes Bertolini. "We have also added a loyalty program,

which is free, so that customers can accrue points by parking at the airport. Program members have parking fees automatically charged to their credit card, without using a ticket or a payment machine or cashier; and after parking a set number of days, they qualify for expedited security screening. In addition, they can redeem points for free parking. This incentivizes people to park here."

IND's corporate parking program offers discounted garage rates for companies with a large volume of parking days.

The airport is also leveraging GPS technology to improve service for customers parking in its remote lots. In December, crews installed sensors in the airport's shuttle fleet that provide real-time information about each bus' location. "There are electronic signs in the bus shelters that show passengers how close the next two buses are," explains Bertolini. "The wait is never lengthy, but it improves any feelings of uncertainty about wait times and reassures passengers that we're coming."

At Casper-Natrona County International Airport (CPR) in Wyoming, most parking spots cost \$5 per day, but 20% are free, as mandated by the state. Even so, Greenbee saw an opportunity there and now offers parking for \$2.75 at a Best Western about eight miles from the airport.

Despite the price difference, Airport Manager Glenn Januska isn't worried: "Our parking is inexpensive – free in some cases – and it's convenient."

With 115 spaces free to whomever finds them first, Januska figures that CPR's



parking may help discourage passengers from driving four hours to the nearest commercial airport, Denver International.

"I know I'm losing revenue on the free parking, but you never know what the tipping point is," he explains. "What if it's one of the key drivers for someone to fly out of our airport instead of Denver? No one can use the excuse of parking to not fly from Casper."

In Ohio, Cleveland Hopkins International Airport (CLE) has a system to control inventory in its on- and off-airport lots. In September, CLE converted its short-term parking garage into a "smart" facility. Rates are determined by how long a car is in the garage. If the ticket is less than 72 hours old, the system charges short-term rates; over 72 hours, long-term rates are applied.

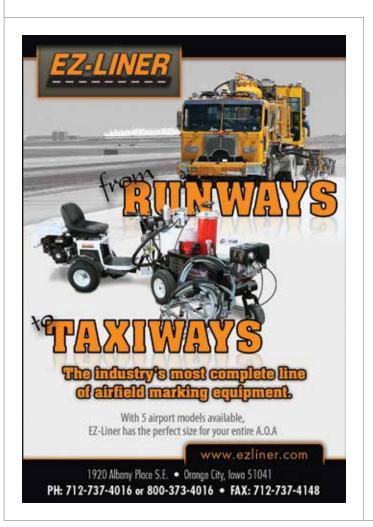
A computerized system helps direct parkers by informing them how many spaces are vacant on each floor. Once they choose a floor, it tells them how many are available in each row; and a red light or green light above each space lets passengers know which are available.

"This allows us to maximize the parking in the garage," explains Airport Director Ricky Smith. "We would normally close the garage when it's 85% full; now we can keep it open until it's at 100%."

CLE is also in the process of adding more economy options. Last year, the airport signed paperwork to acquire two off-airport parking



Ricky Smith



operations: Airport Fast Park and Park Place. When complete, the deal will add 6,100 additional economy spaces to CLE's overall parking stable.

According to Smith, the airport plans to maintain the off-site lots as separate brands. Both are corporate-type systems with loyalty programs already in place — something CLE doesn't currently offer for its on-site parking but plans to add in 2015.

"The Cleveland market is on both ends of the spectrum: economy and valet," he explains. "We tore down one of our parking garages, and instead of replacing it with another garage, we added an economy lot."

Smith considers the airport's shuttle service a competitive advantage. On-airport shuttles normally leave/arrive every eight minutes; shuttles for off-airport lots run in five-minute increments.

"Hotels are not going to invest in shuttle service to establish the frequencies that a well-run airport service can offer," he explains. "Passengers might be attracted by a lower rate, but when they find themselves waiting 20 to 30 minutes for a shuttle, they might think twice the second time."

CLE's valet service is unique, in that it receives and returns passengers' cars at the curb. When valet customers land, they alert the service by calling the phone number on their claim ticket, and their cars are brought to a special TSA-approved area.

Security Matters

IND and CLE both cite safety as a priority for their parking facilities and provide protections most off-airport parking operators can't match.

"Our on-airport lots are equipped with camera systems manned by airport police and our operations unit 24 hours a day," describes Smith. "We'll have the same camera system for our off-airport lots. We have not had any safety issues with car theft, vandalism, or robbery, probably because of our police presence. That will deter any criminals. We have a solid track record of safety on our property."

IND posts emergency phones at each shelter, plus a few more scattered throughout the lot. "There are 13 shelters in the economy lot – this means at least 13 emergency phones and a screen in each one," chronicles Stone. "We staff our emergency phone answer center with customer service reps; so if someone has a flat tire, needs a jump start, or can't find their car, (workers) are here to help on the emergency phones."

The airport recently received great feedback when it had staff ready and waiting to dig customer vehicles out of the snow, she adds.

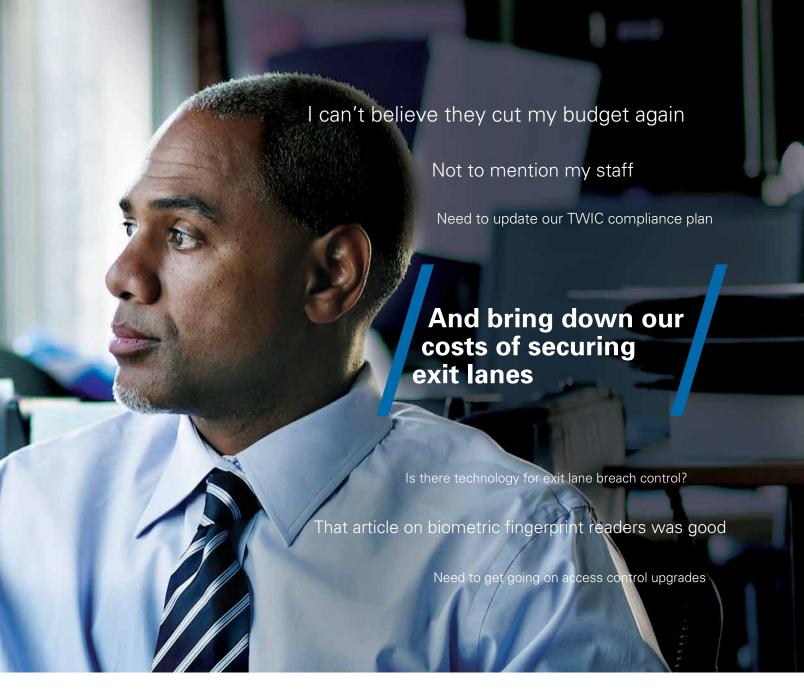
Time to Reassess?

At some airports, parking revenue is a star of the balance sheet and management continually looks for ways to hone offerings to maximize efficiency. At other locations, however, parking fees are taken for granted, and opportunities for enhancements are left on the table.

With constant pressure from corporate-branded off-airport competitors and new challenges from companies like Greenbee, airports across the country may want to take note of what other companies are offering their passengers. Now may be the time to shore up on-airport parking options and promotions.



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New Boarding Pass Scanners Guide Passengers to



What began as a digital signage initiative at Boston Logan International Airport (BOS) has evolved to include an industry first: boarding pass scanners that help direct passengers to their gates and deliver information about flight updates and concessions' options along the way. The innovative wayfinding/flight information/marketing combo is not only improving the passenger experience at BOS, it's also inspiring airports around the country to follow suit.

Three interactive scanners went live in BOS' Terminal C late last year, and additional larger iterations of the technology are already planned for other areas in the airport. Maria Itati Moguilner, passenger information systems supervisor at the Massachusetts Port Authority (Massport), watched intently as customers began discovering the airport's new feature.



aria **Itati Moquilner**

One of the first to use the new boarding pass scanner was a child, no more than 12 years old, recalls Moguilner: "He walked up to the screen, began touching it and showing his parents, then turned around and asked, "Can we go to Johnny Rockets?".

Moguilner says the BOS staff expected a learning curve with the use of the boarding pass scanner, but not as much with the screens, as many people use touchscreen tablet devices. An orange frame was placed around the scanner to draw attention to it and help passengers recognize that it offers a unique function. When passengers scan their boarding passes, the system welcomes them by name, provides their gate number and indicates their flight status. The screen then shows an animated path to their specific gate and highlights amenities available along the way, including restaurants and shopping. It even provides weather information about passengers' destination cities.

"The robust functionality allows the boarding pass scanner to do so much more as it integrates with interactivity and wayfinding," says Christopher Hill, senior sales executive at software provider Four Winds Interactive.

The scanner tracks both screen touches and the number of boarding passes scanned. At press time, the statistics had not been thoroughly reviewed yet, but Moguilner was looking forward to having such useful information. Some passengers are

confused when they first see the scanner but are intrigued once they realize how it works, she explains. "This is really cool!" is a common reaction, she adds.

"It's very simple and streamlined for the user," says Colleen Hamilton, principal at Art of Context, the firm that designed the system's content.



Colleen Hamilton

Gates & Concessions at Boston Logan

By Jennifer **Bradley**

Passengers naturally clutch their boarding passes in their hands as they travel through airports, so the system is a "natural fit," she adds.

Quick Turnaround

The timeline for installing the new scanners was notably tight, recalls Moguilner, who managed the project for Massport. Although the overall signage initiative kicked off in June 2012, the project was well underway before the boarding pass scanner element was added. "As we defined the program, we saw there was much other opportunity," explains Manik Arora, president and CEO of Arora Engineers. "It was



not necessarily based around revenue generation, but enhancing the level of service and passenger experience."

Moguilner and Arora presented the technology at the annual conference for Airports Council International - North America in September 2013. Then, they proposed installation at BOS to Massport's chief information officer, Francis Anglin, who immediately recognized the value of the system and authorized the project to be completed before the end of the year. The first scanners went live on December 30, barely meeting contractors' year-end commitments.

Hamilton says that installing scanners in one part of the terminal offered BOS the opportunity to see what works and what doesn't before debuting the equipment throughout the airport. "We really believe in the concept of piloting, doing passenger studies and rolling that information into our next version," she explains.

Jason Shevrin, a project executive at Arora Engineers, agrees, noting BOS was "very mature" in the way it approached the process especially for an airport that previously didn't have digital signage. Establishing this plan now, he adds, will benefit BOS for years to come: "Every time they do a capital improvement project, they know what they want to do, the content,



lason Shevrin

configuration of the displays and hardware. It was a really good experience for everybody."

The new technology could create a fundamental shift in how passengers navigate airports, notes Arora. Currently, most passengers view their journey from gate to curb, and curb to gate, as linear. In reality, he counters, we "live in a world of figure eights and circles." BOS' new boarding pass scanners will help define points along those curves and circles where customer service can be increased, information can be push or pulled, and eventually opportunities for revenue can be added.

From a content standpoint, Hamilton notes that it will be important to keep every customer touch point at BOS consistent - from the airport's website, to its mobile app, and onsite with the new digital signage. Massport wants the same interface to be available at home, on the road and in the airport. "If a person is pre-planning their visit at home, we don't want them presented with something totally different when they come to airport," she explains.

bostonlogan Fassport



factsfigures

Project: Digital Signage

Location: Boston Logan Int'l Airport

Initial Phase: Installation of 27 digital displays in Terminal C **Special Feature:** 3 displays include interactive boarding pass scanners

Timeline of Scanner Project: Sept. to Dec. 2013

Project Management: Massachusetts Port Authority

Engineer: Arora Engineers

Content Developers: Art of Context

Software Developer/Scanner Integration: Four Winds Interactive

Scanner Hardware: IER

Plates & Stainless Steel Structure: Forms+Surfaces

Media Players: Mediavue Systems Passenger Interviews: Cercone Brown Co.

Key Benefits: Enhanced customer service; improved wayfinding; new form of conces-

sions information; potential revenue opportunities

Next Phases: 88 digital displays & 4 interactive video walls in Terminal B; 40 displays, a complete replacement of the existing flight information display banks & an interactive video wall with boarding pass scanner in Terminal E



Behind the Scenes

Shevrin says preliminary work BOS personnel did made the tight installation timetable achievable. Their process of detailed research, planning, installation and another follow-up round of research also made the overall signage program highly effective, he relates. According to Shevrin, top-tier airports are now making signage a holistic program within their facilities.

Moguilner agrees that the research was a particularly important piece of the project. "The truth of the matter is that the first time, we developed the content blind," she acknowledges. "We put out what we thought was needed, and while 80 percent was on track, there were other things we didn't think would be such a big deal and were."

Last summer, however, BOS hired Cercone Brown Co. to conduct five-question interviews with a variety of passengers — moms, students, businesspeople, etc. — while they waited for their bags. The results were eye-opening, Moguilner recalls: "It took them three to four minutes to find where they were on the map, another three to four minutes to find what they wanted, and another one to two minutes to find how to get there."

The research also revealed that BOS passengers prefer to see information about local current events in the baggage claim area, rather than historical Boston photos or news feeds. A second survey will be conducted later this year.

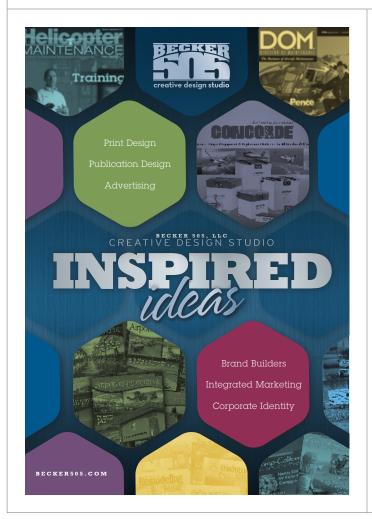
Reviewing the videotaped interviews "takes time, but it's worth it," says Moguilner. "Like any business, it's getting in touch with your customers."

Like Shevrin, Arora also highlights the importance of the airport's research and pre-installation planning: "They (BOS) respect the process but also understand that you have to go through the process. If you want to only sell advertising, then the 'hang and bang' approach is your priority. If you want to increase the level of service, however, you have to go through some measurement of what you want to accomplish."

When it comes to airport wayfinding and signage, one size never fits all, adds Arora.

Dynamic Data

With 27 new digital displays and three interactive boarding pass scanners operating in Terminal C, BOS' seven-gate expansion of Terminal B is currently underway. It includes the installation of 88 new digital displays and four interactive video walls. Terminal E will follow, with another 40 displays, a complete replacement of the existing flight information display banks, and a boarding pass scanner in an interactive video wall that is designed to accommodate arriving international passengers making connections to national flights.





The synchronization of various individual data feeds provided by the new system is a big bonus for BOS, notes Hamilton. Concessions and gate information is layered, so if a gate change is made on the website, the same change is immediately updated to the digital signage. "It is all data driven, which is really unique - almost as much as the boarding pass aspect," she explains. Although the technology has been previously used for mobile and web applications, this is its first use in digital signage, Hamilton adds.

Four Winds Interactive, the software provider, highlights the revenue implications. "While providing an enjoyable passenger experience is important for all airport executives, we know driving the bottom line is essential," says Hill. "BOS made it easier for passengers to locate amenities with step-by-step directions, which in turn, increased foot traffic to terminal locations."

Adding the new signage allows BOS to promote concessions information in a powerful format that captures passengers' attention and increases the likelihood of purchases, he explains.

According to Moguilner, executives at the airport's two main concessionaires are very excited about the new technology and foresee enormous potential with its application. After installation, they were eager to learn about how their companies can

work with Massport to incorporate restaurant specials, menus and information about store sales integrated into the content passengers see on the way to their gates.

Arora predicts that the new data-driven system at BOS could eventually expand even further to include passenger loyalty programs and concierge services - elements that will boost passenger loyalty and provide a new non-aeronautical revenue stream for the airport. There is money to be made, he notes, even if only 10% of the airport's 30 million passengers opt to pay for a yearly subscription to receive exclusive information about the best parking spots, discounts at high-end retailers, etc.

Customer service is the hook, adds Arora, echoing Massport's guiding philosophy. Given the technology's immediate benefits and future potential, Arora is not surprised by the attention BOS' boarding pass scanners is garnering. The company is already working with a major U.S. International airport on a similar system, and numerous others are expressing interest as well.

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DFW Adds Hotel Hospitality to TSA Checkpoint with Help from Marriott

By Rebecca Kanable



factsfigures

Project: Security Checkpoint Renovation **Location:** Dallas/Fort Worth Int'l Airport **Checkpoint:** Terminal E, Gate E18

Noteworthy Features: Hotel-style furniture & artwork; LED lighting; oversized artwork; mood music; re-composure area; queue management system; improved sound system; new containers for passenger belongings

Cost: \$500,000 (including sponsorship fee)
Funding & Design: SpringHill Suites by Marriott
Project Management: SecurityPoint Media
Program Execution: Aviator North America

Lead Media & Creative Agencies: MEC; McGarry Bowen: Ferocious Cow

Project Duration: 3 months
Checkpoint Debut: Oct. 1, 2013

throughput

Airport-Funded Change: 1,500 sq. ft. expansion Queue Management Tool: Qmetrix, by XIMES Stanchions: Beltrac, by Lavi Industries Audio System: Panphonics Sound Shower Passenger Belonging Containers: SecureTray Key Benefits: Enhanced customer service; increased It wouldn't be hyperbole or marketing hype to say that the newly renovated TSA checkpoint at Dallas/Fort

Worth International (DFW) puts most airport screening areas to shame. The 3,000-square-foot screening station in Terminal E features soft music, mood lighting, oversized artwork, a video wall and other style-conscious décor. Beyond the X-ray machines, passengers don't stoop and wobble awkwardly to put on their shoes and repack carry-ons. They sit on plush couches or stand at tall tables in a specially designed "re-composure area."

The new customer comforts debuted in October cost approximately \$500,000 — and DFW didn't pay a penny for them. In fact, the airport collected a sponsorship fee for allowing SpringHill Suites by Marriott to infuse the checkpoint with hotel styling and advertise in the upgraded space.

Travelers passing through the checkpoint now describe it as "hotel-like" — and that's just what DFW was shooting for.

"Hotels are all about hospitality – welcoming their guests and making them feel at home," explains Michael Baldwin,

the airport's assistant vice president of concessions. "That is part of what we do at DFW. We want to welcome guests. We want them to know that we want them to be here. We need them to be here. We want them to feel comfortable and to have a good experience and good take-aways from DFW."

SecurityPoint Media, an agency that specializes in airport checkpoint advertising, connected DFW with SpringHill Suites and collected a commission for its matchmaking and project management services.

Unique Partnership

Before the hotel company performed its checkpoint makeover, DFW made operational improvements and doubled the overall size of the TSA screening area near Gate E18 during a recent 50,000-square-foot expansion of Terminal E. The project was a small component of a \$2.3 billion program to renovate and "redefine the airport experience" in DFW's four original terminals.

"(The checkpoint expansion) provides us the square footage that we need to provide adequate queuing areas and divestiture lanes," explains Bob Blankenship, DFW's assistant vice president of planning.

Just as DFW was considering its next step in the project, SecurityPoint Media approached the



Bob Blankenship

airport's concessions staff. After learning about the airport's mission to create a new level of passenger comfort, SecurityPoint Media suggested that DFW might be able to secure third-party sponsorship for checkpoint enhancements. SpringHill Suites, it seems, was interested in transforming a real-world experience encountered by travelers to promote its hotel brand.

The airport security area seemed like the perfect place to bring unexpected and positive enhancements," explains Craig Fowler, Marriott's senior director of brand marketing, select service



Craig Fowler

brands. Infusing the checkpoint with hotel hospitality and styling created an "antidote to the stress of business travel," he explains.

The cooperative checkpoint project that resulted is a life-sized, working demonstration of SpringHill's advertising campaign, which asks: "What if everywhere you went, you experienced so much more than you expected?"

DFW dubbed the three-month checkpoint pilot "The Next Level Experience" and defined its goals: exceed passenger expectations by improving communications, enhancing the physical environment and adding customer conveniences.

Joseph T. Ambrefe, Jr., president and chief executive officer of SecurityPoint Media, credits executives at DFW for their role in the project: "They were willing to execute a first-in-



Joseph T. Ambrefe

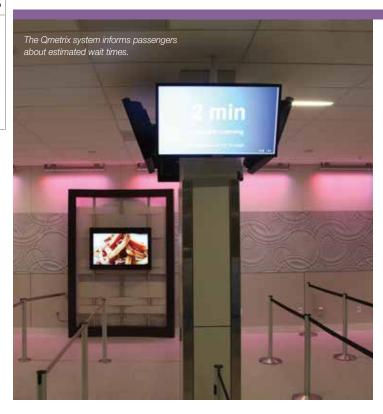
class program in the industry in the U.S.

– and consider how the space around the checkpoint can be transformed to bridge the service gap.

"DFW had a clear vision for what it wanted," he continues. "Bringing SpringHill







Suites in as a sponsor with a shared vision was critical for generating revenue in the space and being able to connect in a relevant way with their target demographic. The great thing about the project is that all the stakeholders were aligned."

The overall goal was to improve the checkpoint experience by putting customer service front and center, he explains. A wall graphic in the re-composure area summarizes DFW's objective and reinforces SpringHill's ad campaign: "Experience so much more than you expected."

According to Fowler, feedback from travelers about the recently renovated checkpoint has been overwhelmingly positive. "To witness travelers smiling while using the recomposure area or enjoying the video wall while moving through the zone is very satisfying," he comments.

DFW is the first of two airports transformed by SpringHill Suites; Charlotte-Douglas International Airport in North Carolina is the other.

Creating a Hotel Feel

Blankenship describes DFW's previous Terminal E checkpoint as "functional, but cold and unwelcoming." These days, soft,

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color-changing LEDs replace bright white fluorescent lights; oncebare halls are adorned with colorful pictures of larger-than-life flowers, ferns and hotel views.

"The enhancements really made a major improvement to how the customer feels welcome at DFW airport," Blankenship reports. "It's a much more relaxed feeling."



Erik Bottema

Replicating the comforting feel of a SpringHill Suites hotel in a post-security airport environment was more complex than challenging, says Erik Bottema, Aviator North America managing director. (Aviator is Marriott's media agency partner in the aviation market.)

To do so, designers used many of the hotel's finishing elements and materials in the checkpoint. Chairs, tables, couches, carpet, wall colors and even some hardware pieces are identical at both locations. Passengers who don't recognize the SpringHill Suites look and feel will find the hotel's name and brand identifiers on wall wraps and banners at the checkpoint. Signs with the hotel's logo encourage passengers to "Feel refreshed" and "Feel inspired."

New Efficiencies

According to Blankenship, SpringHill's subconscious stress-reducing elements have helped increase throughput at the renovated checkpoint. Wait times have decreased because people are going through faster, he explains.

Specifically how long will a passenger need to wait? DFW recently installed a queue management tool to provide that answer. Qmetrix, by XIMES, provides an estimate to each passenger as he or she enters the security checkpoint area. "We thought that it was really important to manage expectations," Blankenship relates.

While watching the airport's new system in action, he recently heard a woman mutter, "It's going to take me 20 minutes to get through," as she entered the checkpoint. The queue management system, however, estimated her wait time at 10 minutes. Using his watch, Blankenship timed the woman going through in eight minutes.

"The Qmetrix queue management system is incredibly accurate," he notes.

The system is made up of wireless queue sensors integrated into a Lavi Industries
Beltrac stanchion system, a data radio and a

web-based dashboard. The sensors count customers in and out of a waiting queue by using infrared beam-break technology. Data collected by the sensors is available in real-time and can be used to create key performance indicators and reports.

According to SecurityPoint, which managed both projects, DFW is the second U.S. airport to install the queue management system.

Improving Communications

While some airport checkpoints have more signs than passengers could possibly read, DFW's E18 checkpoint doesn't have a single one. It displays screening and other information on 40-inch, flat panel monitors. "We are a TV society," Blankenship explains.



Ongoing Checkpoint Improvements

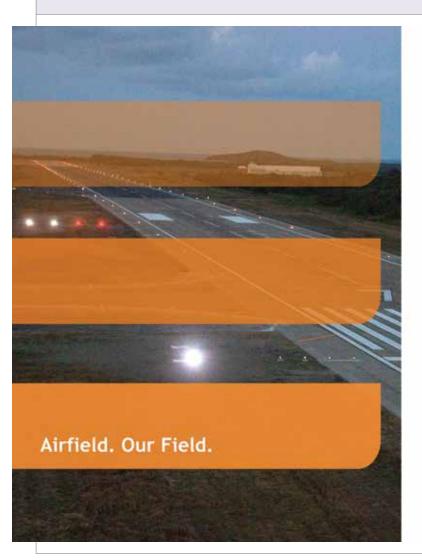


Realizing that TSA screening is a critical part of the overall passenger experience, Dallas/Fort Worth International Airport (DFW) continuously monitors performance at the 16 checkpoints in its five terminals.

Almost a decade ago, DFW officials became concerned that wait times were becoming excessive. In 2005, the airport began partnering with TSA in 2005 to process passengers more efficiently — without adding equipment or TSA officers.

"What we have found over the years is that as security procedures change, they typically require more square footage," says Bob Blankenship, assistant vice president of planning at DFW. "We got to the point where there was no more square

Operating as an in-house consultant, the DFW Planning Department conducted a study about the airport's checkpoint throughput and recommended a number of operational improvements. While many airports have passengers form a single line at each screening machine, DFW uses both sides of divesting tables to expedite traffic flow into each X-ray machine. If one line is held up, the other can keep moving. The airport also uses both audio and visual messaging to move passengers along. Visual monitors in the queue area display custom-made explanations of how to divest. Audio messaging at the divesting tables provides friendly reminders, so the TSA agents don't have to.



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With these changes, throughput capacity (as measured by per lane averages) increased by about 34%. On average, capacity improved by about 200 passengers per lane, per hour throughout the airport.

DFW also expanded some checkpoints as part of its Terminal Renewal and Improvement Program, a \$2.3 billion project designed to renovate and redefine the airport experience in its four original terminals. "We took that opportunity to design what we considered the ideal security checkpoint," Blankenship explains.

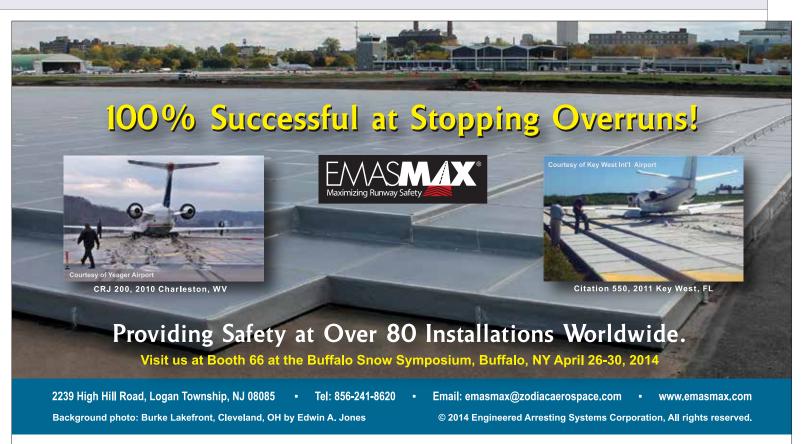
Not stopping with additional square footage, DFW officials continued to evaluate what they could do to enhance the customer experience. That's when The Next Level Experience was developed.

DFW was also among the first airports to test the TSA Preê program, which expedites screening for low-risk travelers. Under the program, pre-approved airline travelers may be allowed to leave on their shoes, light outerwear and belts; keep



laptops in their cases; and leave allowable liquids and gels bag in their carry-on baggage.

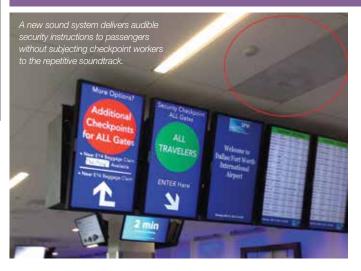
TSA has since expanded the program to more than 100 airports nationwide and is currently in the process of opening more than 300 enrollment centers in terminals across the country. As enrollment centers open, all U.S. travelers and lawful permanent residents will be able to apply directly for expedited screening privileges.



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Dynamic, targeted messaging tells passengers how to prepare for screening and delivers information about terminal concessions, services and SpringHill Suites. "Even though the (TSA) rules have been around for years and years, you would be surprised how many people don't remember to take their shoes off or take their electronics out," Blankenship remarks.

Since DFW implemented the media change, passengers are now better prepared for the security process, he adds.

Security instructions are also delivered audibly, via a Panphonics Sound Shower® with directional speakers that are 2 feet square and resemble an air vent. Five speakers positioned in the beginning of the queue play pop/alternative music from the SpringHill Suites stations on Pandora Internet Radio. Another speaker located over the first divestiture lane plays instructional messages for travelers.

Ryo Kumagai, from the Panphonics sales office in Helsinki, Finland, says that DFW's directional audio system is specifically designed to attract the attention of passengers waiting in the queue without subjecting airport workers to the same instructions over and over. With pre-recorded messages, TSA agents no longer need to yell out instructions repeatedly, Kumagai adds.

Trays vs. Bins

The overhauled checkpoint at DFW uses 320 new containers for carry-on bags and passenger belongings such as pocket change, keys, shoes and other items that must pass through X-ray machines. The SecureTrays®, created by SecurityPoint Media, are 20% larger than the company's previous containers but have low



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sides to discourage passengers from stacking items on top of one another. The SecureTray System includes plastic trays, carts to move them and stainless steel divesting tables. Although the system is used at more than 40 major U.S. airports, DFW is the first to use the larger trays, reports Ambrefe.

Like all SecureTrays, the units at DFW have a tether ID number to help track passenger belongings and prevent loss. The numbers at DFW's checkpoint are radio opaque, so they can be viewed with or without X-rays.

While bins at many airports include advertisements, DFW's have colorful nature images that complement the checkpoint's new wall art.

Worth Repeating

TSA personnel declined to weigh in about DFW's recent checkpoint enhancements, noting that they don't comment on private ventures. The administration did, however, reiterate its ongoing efforts to move away from a "one-size-fits-all approach to transportation security."

Although the "Next Level" pilot was officially still under evaluation at press time, early reviews of the new checkpoint

were positive. "Based on informal interviews with passengers and employers, and just observations, we feel really good about the program," Baldwin reports. "Our executives feel so good about it, they said we are not going back."

Moving forward, however, will require funding. And it remains to be seen whether funds will be provided through sponsorships or by the airport. DFW does, however, look to implement the program at all 16 checkpoints, in five different terminals, reports Baldwin. The A12 and international checkpoints are currently top priorities.

It is also yet to be determined whether the airport will partner with SecurityPoint Media for subsequent checkpoint projects. "We're really bullish on the opportunity to help airports think through how to improve the security checkpoint environment," says Ambrefe. "We want to help add a level of customer service, while keeping a critical eye on the security mission."

According to Ambrefe, it's time for airports to begin viewing security as a service opportunity. "With that in mind, things like environment and how people feel when they're waiting in line come into play," he explains.







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Plans for Business Park in the Works at Albuquerque Int'l Sunport

factsfigures

Project: Airside Redevelopment

Location: Albuquerque (NM) Int'l Sunport

Strategy: Develop & market a business park on previous runway site

Project Name: Aviation Center of Excellence

Consultant: C&S Companies

Park Focus: Aviation/aerospace businesses

Other Potential Development: Multi-use commercial center

When Albuquerque International Sunport (ABQ) closed its original runway in 2012, the airport's director of aviation, Jim Hinde, saw a distinct bright side. Hinde envi-

sioned the opportunity to redevelop the land and increase the airport's non-airline revenues by establishing a global business incubator. The change in land use, he reasons, will not only enhance the airport's financial stability, but also benefit the city of Albuquerque and state of New Mexico.

Since 2008, ABQ's revenue mix has gone from more than 50% in airline revenue to now

more than 50% in non-airline revenue — a trend Hinde hoped to continue. "With the volatility of the airlines, we wanted to generate new non-airline revenues," he explains.

Jack Scherer, ABQ's associate director of planning, helped Hinde and his project team identify distinct aspects of the specific 84 acres that would entice global businesses to sign on:



Jack Scherer

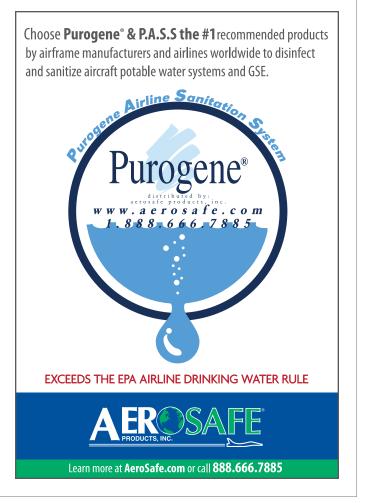


- The F-grade taxiway bordering the site provides direct aircraft access to buildings and warehouses.
- Research and development can be performed on-site, with potential participation from nearby federal, state and local experts.
- Strategic relationships can be developed and strengthened due to the proximity of Sandia National Lab, Kirtland Air Force Base and the University of New Mexico, a public research university.

Moving Ahead

Before proceeding, Hinde and Scherer had to determine the feasibility of various approaches and reassess ABQ's Strategic Physical Plan, which previously called for an additional terminal to be built over the next five to 10 years. Hinde analyzed several potential scenarios and determined that none warranted a new terminal. This realization, in turn, paved the way to redevelop the plan and focus on developing the previous runway site in an effort to create financial stability for the airport. He knew, however, that the task would





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The airport contracted C&S Companies, a firm that has worked on numerous land use and real estate strategy projects for more than 25 airports, to assess the property's potential and provide a strategy for redeveloping it.

Matt Taylor, national director of land use and market strategies for C&S, admits that his initial context for the local market didn't span far bevond New



Mexican cuisine and the Albuquerque International Balloon Fiesta, "For this reason, it is always critical we conduct local market fieldwork and analytics as well as key stakeholder interviews to gain a greater appreciation of a community's true assets," emphasizes Taylor.

After viewing the property, he identified several ways for the airport to partner with the business community. "We are being deliberate and methodical," Taylor explains. "What we found unique to Albuquerque was that it is a place where great ideas start, as evidenced by the numerous R&D company successes that have launched from this community and gone global."

Taylor notes that the team's methods focused exclusively on the business of Albuquerque - more specifically, on developing an aviation-centric business park. The team initially focused on companies or research labs that might work well within a master-planned business park. Eventually, the park was named Aviation Center of Excellence (ACE) and touted as "home to strategic aviation and aerospace innovation and partnerships."

Parcels & Pieces

"The current ACE plan has the 84 acres segmented into six aviation/aerospace modules, all considered to be part of a cohesive, supportive, collaborative environment that leverages synergies among the resident companies," says Taylor.

With Sandia National Labs and Kirtland Air Force Base just a few miles from the airport, C&S focused on looking for "market synergies and opportunities to leverage the leading-edge research and business already being conducted within the community," recalls Taylor. "The concept proposed included a business incubator that could bring in new business operations that could benefit from proximity to air service."

A 20-acre area has been identified for aircraft component, composite and engine manufacturing. Adjacent to this area is another 10 acres reserved for aviationrelated expansion. The southernmost 30 acres is divided between an MRO (maintenance, repair and overhaul) supply cluster and an area allocated for a future regional/business jet MRO, which would include storage and warehousing.

Finally, three acres is designated for an aviation-focused training center. The plan, while reflecting current market conditions and anticipated future trends, maintains flexibility to respond to the evolving needs of the marketplace.

Each segment has no set plot limits, clarifies Scherer: "Flexibility in how we can accommodate different users is key."

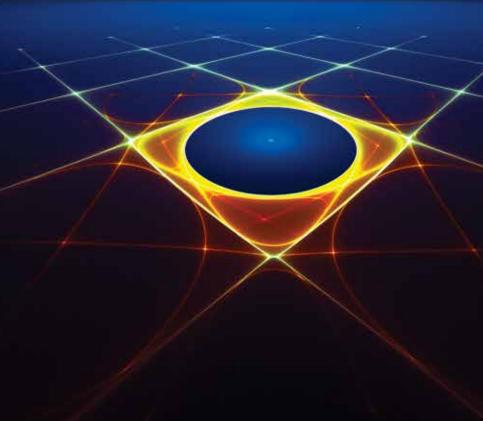
Taylor and the C&S team have also identified an opportunity to develop a nineacre tract on the northern boundary of the vacant property for use by non-airport consumers. Known as "The Landing," the area includes direct access to Gibson Boulevard, one of Albuquerque's main east-west transportation arteries, and is tentatively designated for development as a multi-use commercial center with a convenience store/gas station, retail outlets and restaurants.

The city of Albuquerque, which owns ABQ, has supported the transformation, albeit currently only on paper. "The mayor's office is actively involved," reports Scherer, adding that the city is currently working on approving sewer service, water and gas for the initial build out. Construction and marketing of the property are slated to begin after the city signs off on initial utilities.

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Atlanta Int'l Adds "Airline-Agnostic" Passenger Lounge By Victoria Soukup Jensen



factsfigures

Project: Common-Use Passenger Lounge **Location:** Hartsfield-Jackson Atlanta Int'l Airport

Name: The Club at ATL Size: 7,200 sq. ft. Capacity: 161 guests Daily Access Fee: \$35

Operated By: Airport Lounge Development

Services Offered: Complimentary food & beverages (including alcohol); Wi-Fi access; social, work & quiet areas; large flat-screen televisions; multi-language newspapers & magazines; private restrooms & showers

Key Benefits: Provides premium service to passengers; conserves terminal space vs. operating multiple airline-specific lounges; helps attract carriers by precluding the need/cost of building their own lounge

Building on the traditional popularity of airline lounges while also catering to a preponderance of hub and spoke passengers, Hartsfield-Jackson Atlanta International Airport (ATL) has opened an independently-operated common-use lounge that offers extra perks to all passengers for a \$35 daily access fee.

Already popular, The Club at ATL provides typical "members-only" amenities such as private restrooms and showers; complimentary food and beverages; separate work, social and quiet areas; and high-speed Internet access.

"Just a few short months after opening, The Club at ATL has significantly enhanced the passenger experience at the world's busiest airport," says Louis E.Miller, ATL's general manager at the time. "While



Louis E. Miller

our airline loyalty lounges do very well, we serve many customers who do not fit that model, yet still want a comfortable space with food and beverages to relax between flights. The Club at ATL meets the needs of our passengers looking for a tranquil retreat at an affordable daily rate."

With hub carriers accounting for about 85% of its 95 million annual passengers, ATL has a "very large number of guests" who may be receptive to a lounge that is not affiliated with one particular airline, explains

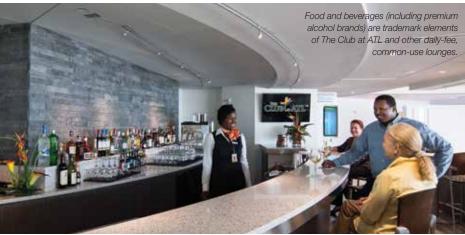


Miguel Southwell

Miguel Southwell, who became the airport's interim general manager when Miller retired.

"You have to make an effort to serve the major segments of your passengers," Southwell continues. "Because we have so many non-aligned airlines that have passengers coming through the airport, we wanted to make sure that those guests can





have the same kind of treatment as those that are associated with the aligned airlines. This club helps perpetuate Atlanta's image as a world-class airport."

According to Southwell, the common-use lounge is proving popular with customers by serving thousands of guests each week, which exceeds the airport's expectations. "Clearly, there was a demand that was unmet," he reflects.

Three airlines also operate lounges at ATL: Delta, American and United.

No Membership Needed

The Club at ATL functions much like an airline club, but doesn't

require an annual membership. Airport Lounge Development, the Texas-based company that operates the club, focuses on providing an upscale experience for visitors - via personalized service and premium alcohol brands such as Chivas Regal, Johnny Walker and Glenlivet, as well as a variety of red and white wines. Food offerings vary throughout the day and include fresh salads, sandwiches and soups, and snacks such as crudités and hummus and pita bread.

The company also operates common-use lounges at Mineta San José International Airport in California; Raleigh-Durham International Airport in North Carolina; Dallas/Fort Worth International Airport (its first location) and two facilities at McCarran International Airport in Las Vegas.

"For some lounge projects, Airport Lounge Development undertakes the design and construction of the lounge, including funding the construction; but we have also worked with airports where much of the design, construction and funding has been airport-driven and (our) role has been to collaborate on the design - particularly the more technical aspects, such as kitchen and bar design and equipping," notes Graham Richards, director of operations at Airport

Lounge Development. "It all depends on the airport's needs and preferences. Both scenarios have worked very well."

The Club at ATL can accommodate 161 people and is available to any traveler regardless of the airline they are traveling on or their class of travel, provided that they hold a valid same-day boarding pass and pay the per-person access fee.



The 7,200-square-foot lounge at ATL was constructed as part of the airport's new 1.3 million-square-foot International Terminal. Located on the third floor, the lounge's two-story glass wall makes it a prominent feature of Concourse F. "It would have been



a challenge to retrofit it in existing space, because you already have the concessions, airline offices, work areas and hold rooms already built out," notes Southwell.

Adding a common-use lounge is an effective way to boost non-aeronautical revenue, says Richards. "Since there is less reliance on the landing fees and direct revenue they receive from airlines, airports are increasingly looking at alternative revenue sources such as parking and concessions," he explains. "One of the drivers is the need to have an upscale lounge, a place for the premium traveler to relax. Not all airlines have lounges, but most airlines want to service their premium passengers by giving them lounge privileges."

Richards applauds ATL for its new international terminal and the balanced concession mix it includes. "Atlanta is a great airport," he raves. "It's the busiest passenger airport in the world, and they're right on the money with what they've done. Their vision of a common-use lounge facility could assist in securing a new carrier, new routes or expanded air services tomorrow. And The Club at ATL could well be part of the solution that's needed to attract that new business."

Branding is Key

The common-use lounges run by Airport Lounge Development all have names based on their three-letter airport codes: The Club

at ATL, The Club at DFW, etc., and provide a similar array of amenities.

"It is helpful to the airport to have a lounge that is part of a network," says Richards.
"Airport Lounge Development brings its 'The Club at' brand and its highly-defined operating standards to the table, which means that the airport itself does not have to worry about the day-to-day operation of the lounge."

Agreements with several carriers allow airlines to pay entrance fees for high-value frequent fliers and business or first class passengers. "It allows them to respond to the premium passenger by providing them with a lounge service," says Richards, noting that it's also a way for the airport to support its airlines.

In many cases, airports that construct common-use lounges use previous airline-run lounges that have been closed, notes Richards. "We are 'airline-agnostic', in the sense that we don't exclude any airline from our lounges. We also provide for other customer groups who want lounge access as an option too," he says.

The Club at ATL has been well-received by the traveling public, especially by business travelers and passengers facing lengthy flight delays, reports Kim Wiemuth, president of Gideon Toal Management Services, which handles the day-to-day management of Airport Lounge Development facilities.

"People traveling for business can come in, have something to drink, get a bite to eat, charge their laptop and get back to work," Wiemuth explains. "It's an oasis in the hustle and bustle of the airport, where people are buzzing around you and talking on their cell phones. You go into The Club, and it's peaceful. You can have your soup and sandwich and a cocktail or cappuccino and get your work done, or take a shower if you need to and just relax."



Wiemuth believes the "Club at" brand is easily recognizable to frequent travelers. "You can go from one lounge to the next and there may be subtle differences, but we try to provide the same service and the same type of menu; so you always know you are in an Airport Lounge Development lounge," she explains.



Replacement Option

Mineta San José International Airport opened The Club at SJC in January 2013, about three years after American Airlines closed its airline lounge. Vicki L. Day, director of Marketing and Customer Services for the airport, says that travelers, especially business passengers, had enjoyed the lounge environment and missed it when it closed. Because SJC is a medium-sized airport that didn't have a carrier with its own club, a common-use lounge was seen as the best option, explains Day.

The Club at SJC was constructed in a seldom-used area on the third level, between terminals A and B, directly above the international gate. While the former American Airlines lounge was located on one end of the airport, the new 128-seat common-use club is located in the middle of the airport, providing easy access for all passengers, says Day.

Airport officials hope the new 7,000-square-foot lounge will help attract more carriers to the airport, which served 8.3 million passengers in 2012 and offers about 130 daily flights on 13 carriers. "We think this is an attribute that will appeal to them and is already proving popular with our Tokyo-bound passengers, in particular, and other frequent fliers who are looking for a place to be more productive while waiting for their flight to depart," says Day.

Common-use clubs can help attract new service to an airport, since airlines don't have to invest in building their own brand-specific lounge, explains Richards. With terminal space at a premium, he predicts that common-use lounges will become increasingly popular. "It is not easy for an airport to commit to building multiple airline lounges," he notes. "If they build one common-use lounge, they can provide service to all of the airlines under a single roof."

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Award-Winning Winter Ops Team Keeps Anchorage Int'l Open

By Robert Nordstrom

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No one at Ted Stevens Anchorage International (ANC) can recall ever having to close the vital Alaskan airport because of snow or ice. Once, yes, because of winds in excess of 100 miles per hour, and once due to volcanic ash from Mount Redoubt; but no one remembers a snow or ice closure.

ANC's accomplishment is especially remarkable when you consider that winters in Anchorage stretch from September through May and produce on average 65 snow and ice events. A successful winter ops strategy is crucial, as the airport is an important link for passenger flights and ranks as the world's fourth busiest cargo airport.

Airport Manager John Parrott is proud of ANC's field maintenance motto — "We never close" — and his crews' success in achieving

it. Five Balchen/Post awards for outstanding achievement in airport snow and ice control from the Northeast Chapter of the American Association of Airport Executives validate his assessment.



John Parrot

"It's a matter of personal pride for our field maintenance staff that they have never been defeated by snow," Parrott explains. "And we say that with appropriate reverence and respect for Mother Nature."

The state's aviation structure reflects similar respect. ANC and Fairbanks International Airport, both state-owned and operated facilities, serve as alternates for each other and together comprise the Alaska International Airport System.



"When you start talking snow and weather, having a sister airport a couple hundred miles to the north is an important safety net," Parrott explains. "It's important for us to be reliable. People flying nine or 10 hours over the Pacific want to feel assured they have a place to land when they get to Alaska. Although we've only had to close twice, having Fairbanks as a safety net is key to our business model."

Structured for Autonomy

"Self-sufficiency is an important part of the equation," advises Parrott. "We can't call on city road crews to stop plowing the streets and help us out on the runways. We're it."

ANC's airfield maintenance department consequently consists of 109 employees, primarily equipment operators, mechanics and electricians. Training, practice and repetition are stressed throughout the department.

Preseason equipment training begins in late summer, with crews hitting the airfield to practice maneuvers they will follow throughout the winter season. Specific equipment formations and sweep patterns are practiced.











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"We run through the entire snow removal sequence, so operators familiarize themselves with the equipment after being away from it for four or five months," explains Airfield Maintenance Manager



aramie **Lindseth**

Zaramie Lindseth. "It also helps us identify any equipment problems and makes sure we're ready to go."

The airport owns and maintains 90 pieces of heavy snow removal equipment: 16 plow trucks, 12 tow-behind brooms, three deicer trucks, four tracked dozers, 15 wheel loaders, one groomer, eight graders, eight sand trucks, 11 dump trucks, 11 snow blowers and one multifunction unit. (See Page 44 for specific equipment manufacturers.)

Airfield maintenance crews cover 830 acres of movement surfaces — approximately 33 million square feet of pavement, Lindseth informs. "And that doesn't include landside surfaces, like parking lots and 62 lane miles of roadway around the airport," he specifies.

The airport has three runways: two 10,500 feet long by 150 feet wide and one 12,400 feet by 200 feet. When a snow or ice event occurs, or sooner if poor weather conditions are forecasted, airfield maintenance crews work in 12-hour shifts around the clock until the weather subsides.

Well-Oiled Machine

Instrument runways and their corresponding taxiways, emergency response avenues and glideslope areas are the top priority. Ramp areas, beginning with the main lead-in lines and taxi lines to the terminals, along with refueling areas and small aircraft taxiways are next in line. The third priority includes public access roads, public access areas and all other roads and areas falling under the purview of the airport's

Double-Decker Snow Dump

With necessity as the mother of invention, Ted Stevens Anchorage International Airport (ANC) and its airfield maintenance crew became the proud parents of a two-story snow storage site during the winter of 2011-2012.

Snow removed from the runways, ramps and other critical areas doesn't melt for months; so the airport maintains onsite storage areas, explains ANC Airfield Maintenance Manager Zaramie Lindseth. Crews haul snow and ice from operational surface areas to designated dump sites, where it remains for the rest of the season.

Last winter, however, ANC reached its storage capacity when the area received a record snowfall of 134 inches. "Our massive snow storage sites were nearing capacity after continuously stacking snow with our tracked dozers," Lindseth recalls. "That's when our airfield maintenance crews put their heads together and came up with a plan."

The airport deployed aircraft rescue and firefighting vehicles to spray water on the massive snow piles, and waited a couple of days for the surface to freeze solid. Then, crews constructed an ice road leading to the top of the pile, which created a second level — effectively doubling the airport's storage capacity. Dump trucks deposited loads of snow in a defined area on the second level, specifically prepared for that purpose, and then crews repositioned it with tracked dozers.

"Obviously, we ensured the integrity of the upper portion in a phased approach," explains Lindseth. "As temperatures dropped, we reinforced the ice road with additional applications of water to build strength in the ramps to the top."

When temperatures rose enough, crews stopped running trucks to the upper level to prevent rutting up the access points. "Many times it was more effective to use the upper level during the evening, when the temperatures were at their coldest," Lindseth recalls. "These decisions were made on a daily basis after evaluating the conditions."

By the end of the season, ANC's snow pile was over 80 feet high, and crews estimated that it contained approximately 6.2 million tons of snow.

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snow removal operations. Snow is pushed or trucked to disposal sites on the airport grounds where it is stacked and stored until it melts. (See sidebar on previous page for more details.)

Snow removal on runways and taxiways normally begins with sweeping operations. Runway brooms towed behind fifth-wheel trucks equipped with rubber plow blades remove the majority of the snow from paved surfaces while limiting damage to lighting systems and pavements. Snow blowers follow the brooms, picking up windrows and casting snow away from runway and taxiway lights. If friction tests reveal slick surface conditions, sand, sodium acetate, sodium formate, potassium acetate or various combinations of these compounds is applied to improve braking action. Lastly, crews apply sand to improve aircraft braking and turning.

Ramp areas are cleaned with loader-mounted plows. If required, crews use graders equipped with steel blades to remove compacted snow and ice and apply sand or chemicals if needed.

Snow contaminated with petroleum or fuel products is treated as a spill and handled accordingly.

The airport initiates ice control procedures immediately preceding precipitation and continues their use until ice is removed or has dissipated from operational areas. Temperatures dictate whether solid deicing products, deicer fluids or mechanical equipment are used to remove ice from surfaces. Liquid deicer or other deicing chemicals are applied to prevent ice buildup, and sand that meets FAA-approved specifications is applied to mitigate slick surfaces. If ice buildup on paved surfaces exceeds 1/8 inch, snow brooms and steel-blade graders are used to reduce thickness to the point where ice control chemicals are effective. The airport prohibits the use of calcium chloride, sodium chloride and other metal-corrosive chemicals on surfaces where aircraft operate.

All snow removal vehicles operating on active runways and taxiways are equipped with two-way radios to allow communication with the air traffic control tower and to facilitate communication with other operators, supervisors and airport operations. When multiple vehicles are operating in a controlled airfield area, the lead vehicle serves as the point of contact with the control tower. All other vehicle operators monitor the communications and react in accordance with tower or lead vehicle instructions.



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See Sherwin Industries New X unveiled at the Buffalo Snow Symposium April 26-30, 2014.



Dealing with ice is ANC's biggest challenge, notes Lindseth. "We feel confident in our abilities to handle most snow events. but freezing rain makes it extremely challenging to stay ahead of airfield conditions," he explains. "And it's very expensive."

Provisioning with the right amount of chemicals is another perennial issue. "It's not like the lower 48 - where if you need more chemicals, you can get them trucked in from a couple hundred miles away," Lindseth explains. "Here, chemical reorders come in by boat and are 45 days away. Even though we forecast out and try to have enough chemicals here before the winter season begins, we can only store so much."

This winter, which has included more freezing rain than usual, was a particular challenge. "Making sure we have enough product available is one of the most nerve-wracking decisions we have to make," he reflects. "On average, we go through 180,000 gallons of liquid deicer, 2,100 tons of solid deicer and 4,500 tons of sand annually."

Staff-Driven Success

As a five-time winner of the Balchen/Post Award, ANC is considered an industry leader in snow and ice removal. It even influences equipment trends, notes Parrott. After the airport's field maintenance staff developed automatic adjusters to control the tilt and pressure of its brooms and prevent unnecessary wear and



tear on broom bristles, manufacturers began offering them as an option to other operators as well.

"It's all about the people," Lindseth concurs. "You can have all the fancy equipment in the world, but it's our talented and professional crews that make us successful."

ANC's management of a 2003 snow event illustrates their point: "We got 27 inches in one day," Parrott recalls. "That was a challenging day, but we were able to meet our goal of keeping two runways open and rotating through. The equipment never stopped moving. We were falling behind, but we never had to cry 'uncle.' It was like a military operation and amazing to watch. That's a testimony to the dedication and cooperation of our crews and the FAA air traffic management folks."

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US Airways Upgrades Airside Bus Fleet at Reagan National

By Mike Schwanz



factsfigures

Project: New Procedures & Vehicles for Transporting Regional Jet Passengers from Hardstands to Terminal

Location: Reagan National Airport

Airline Partner: US Airways

New Equipment: Cobus 2700S

Bus Capacity: 77 passengers, plus carry-on baggage

Vehicle Mfg: Cobus Industries

Fleet Size: 10

Approx. Cost: \$525,000, including delivery & training

Passenger Loading Device: Keith Consolidated Industries

Other Changes: Extensions to 2 jet bridges & a new jet blast fence route buses around aircraft & ground support vehicles to which they previously had to yield

Key Benefits: Enhanced customer convenience; improved on-time departures due to more timely aircraft boarding

Getting passengers in and out is a continual challenge at older East Coast airports, where congestion is often a standard element of the local landscape. Hardstands allow them to accommodate more aircraft and passengers than contact gates alone; but they also create the need to shuttle customers between the tarmac and terminal.

Reagan National Airport (DCA) in Washington, D.C., and US Airways, its dominant carrier, know the shuffle all too well. Each month, US Airways Express operates more than 3,000 flights from hardstand positions at DCA, mostly via CRJ 200, which seat about 50 people each. Recently, the airline invested in equipment and infrastructure changes that have already improved both traffic flow and passenger satisfaction.

"In 2013, there were 20.4 million passengers using the airport — a record for us," reports Airport Manager Paul Malandrino. "We have up to 850 flights a day, and approximately 110 of those are the regional jets



Paul **Malandrino**

operated by US Airways. So getting those planes to depart on time was very important to us."

In December, Piedmont Airlines, a subsidiary of US Airways Express, purchased a fleet of buses to improve the efficiency of loading and unloading passengers from regional jets parked at hardstands. Bob Berg,



Bob **Berg**

director of stations for Piedmont, reflects on the precursors to the improvements: "We knew we had to change some things back in 2012, when US Airways took over many of the slots Delta Air Lines had at National. We increased our number of daily flights from 73 to 110 — roughly a 35 percent increase. This moved us more toward a hub status."

For several years, the airline had 14 parking positions on the tarmac at DCA, and getting people to and from the regional jets was a problem. Previously, the carrier used 30-seat vehicles that resembled school buses. "Passengers had to go up three steps to even board," Berg recalls. "And if we had more than 30 passengers, we had to use more than one bus.



We had to maintain 20 buses in our old fleet." Today, the airline uses 10 more modern buses.

It quickly became apparent that a better system was needed. Based on 2½ years of success using Cobus 3000 buses at Philadelphia International Airport, the carrier decided to buy a smaller version of the same unit, the Cobus 2700S, to use at DCA.



rwin **Zimmermann**

"The vehicle has a capacity of 77 passengers, and an open interior, with only 10 or 12 seats," says Erwin Zimmermann, vice president for Cobus Industries. "It is designed much like the rail-mounted peoplemovers used at other airports, only with more flexibility."

Cobus buses are not like typical city buses, Zimmermann emphasizes: "They are specifically designed for just this specific type of operation, keeping passenger accommodations, safety and maintainability in mind." A separate compartment separates the driver from passengers to enhance safety.

Zimmermann highlights the bus' low floors and single step of about 11 inches as key features. "At DCA, there is a curb, so the one step is even easier to climb," he adds.

Since most of DCA's regional jets seat about 50 passengers, an entire flight can fit onto one bus. This reduces driver and maintenance personnel requirements as well as insurance expenses, notes Zimmermann.



The Cobus 2700S uses an Allison transmission, driven by a small four-cylinder Mercedes Benz diesel engine that consumes slightly more than 4 gallons per hour. "Why put in a big engine when you will only be driving at 20 mph or less?" Zimmermann asks. The company also offers models that run on alternate fuels.

Per its contract. Cobus trained Piedmont's trainers and maintenance staff. The airline's trainers then trained the bus drivers.

Other Enhancements

Getting new buses was only part of the efforts made to improve regional jet operations at DCA, relates Berg. "The holding area at the departure gate for all regional jets was quite small and cramped," he explains. "We added three more doors, so there are now five doors. Four are used for departing passengers, and one for arriving passengers. Now, the new space can accommodate up to 200 people, or about four flights, at one time."

Another previous obstacle was that buses going to and from the regional jet parking ramp were subject to delays — sometimes as long as 15 minutes — while waiting for aircraft to depart from nearby gates. "To remedy this problem, we developed an alternate bus loop that allowed our buses to make a continuous loop to and from the remote ramp, unimpeded by aircraft movement," Berg explains.

The new loop required the extension of one jet bridge to expand the bus parking area at the terminal, and the extension of another jet bridge so buses could pass under it as they approach and depart the terminal. Like the new buses, the infrastructure changes were funded by US Airways.

The airport, in turn, installed a secondary blast fence that runs parallel to its permanent blast fence to help prevent damage to the buses from debris kicked up by the jet engines taxiing to the runways.

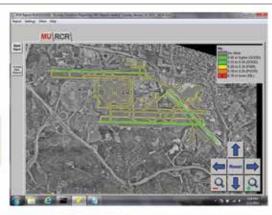
"Now, the buses have a two-lane road between both fences. and do not have to stop," notes Malandrino.

With aircraft parking 400 to 1,000 feet away from the North Pier, the bus ride to the terminal is about three to four minutes long. After a flight is announced, passengers stay protected from the weather by a large canopy that overhangs a curb that facilitates the bus loading process. Once they arrive at their plane, passengers exit the bus and climb the stairs to their aircraft.

The process, however, may be improved soon, notes Berg. "We are currently working with engineers and a manufacturer to develop a fixed but movable bridge for each of the 14 remote parking slots, perhaps even later this year," he reports.







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US Airways uses smaller vehicles to transport passengers with mobility handicaps to regional jets parked on the tarmac. Such customers are boarded using a Passenger Loading Device — a movable, adjustable ramp that bypasses the stairs and provides direct access to the aircraft door.

Three electronic signs on each bus display the flight number and destination of the plane passengers are about to board, and the driver uses a public address system to announce the destination of the flight. Passenger loading and unloading is expedited by two sets of doors on both sides of the buses.

At press time, the new Cobus vehicles had been in use at DCA for only a few weeks, but were said to be running smoothly. "We feel good about how things are going so far," Berg reports. "Our passengers like the curb access, the extended canopy, and better on-time departures."

Shared Checkpoints

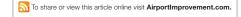
Another initiative US Airways is taking to improve the passenger experience at DCA is shuttling passengers between terminals B and C to decrease wait times at TSA screening checkpoints. "If the security lines are much shorter in a given terminal, passengers can go through screening there, and use shuttle buses to move from one terminal to another," Malandrino explains. "The buses

are also used by passengers on connecting flights, eliminating the need to go through security screening to board their new flight in a different terminal."

More expansion may be in the works as well, adds Malandrino. "Because of the merger with American Airlines, US Airways must sell 44 round-trip slots to other carriers," he explains. "Projections indicate that we could end up with 2 million more passengers in the future. If this happens, we may have to expand. Enlarging Terminal A (the airport's original terminal) might be one possibility. We will have to wait and see the impact of these changes."

Such a jump in traffic would trigger changes throughout the airport, notes Malandrino. "This would affect our operations. There would be more demand on rest rooms, parking, custodial services, etc.," he relates.

All DCA passengers, not just US Airways' regional jet customers, are in for widespread concessions improvements later this year. "Nearly 85 percent of food and retail will be brand new to the airport," Malandrino reports. "We are always striving to improve the overall experience for all our passengers, and the new procedures to transport people out to the regional jets are just part of that."



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Project: Centralized Management of Passenger Info Displays

Location: Airports in Cancun, Merida, Cozumel, Villahermosa, Oaxaca, Veracruz, Huatulco, Tapachula & Minatitlan

Airport Operator/System Owner:

Grupo Aeroportaurio del Sureste

Content Management System:

Air-Transport IT Solutions

Key Benefits: Decreased operating/maintenance costs; increased ease

A system recently deployed at Cancun International (CUN) is centralizing the operation and management of passenger information displays at nine southeast Mexican airports. Currently in full operation, the system is simultaneously delivering multiple benefits to the traveling public and the airports' operator.

Grupo Aeroportaurio del Sureste, S.A.B. de C.V. (ASUR) is the first privatized Mexican airport operator with concessions to operate, maintain and develop the airports of Cancun, Merida, Cozumel, Villahermosa, Oaxaca, Veracruz, Huatulco, Tapachula and Minatitlan. It is also a 50% joint venture partner in Aerostar Airport Holdings, operator of the Luis Munoz Marin International Airport in Puerto Rico.

Adrian Sanchez, the company's corporate manager of information technology, explains that ASUR was specifically in the market for a solution that would allow it to manage the flight information displays at all nine of its airports through its own headquarters IT department at CUN.

"We wanted to manage what we display and make it easier for the users," Sanchez explains. "Now, we can manage this information from our local site here, and the new system can manage all the airports from the same software."

The software he refers to is a content management system from Orlando-based Air-Transport IT Services (AirIT). ASUR supplied the hardware for its new system, with support and software provided by AirIT.

The two companies began working together in 2012, and ASUR's new content management system was fully deployed in 2013.

Central Benefits

Managing the digital content for nine airports from one set of servers at CUN provides ASUR with economies of scale. Deploying separate content management systems at each airport would be cost prohibitive in terms of hardware, software and staffing, Sanchez explains.

"Given the advancements in network technology and in application development, you can host these types of applications and manage multiple sites anywhere," says AirlT President and Chief Operating Officer Chris



hris **Keller**

The airport operator saves personnel expenses, since one system administrator can maintain multiple locations. A scheduling



tool, as part of the system, allows ASUR to automate the displaying of messages and content at each facility. An airport can "schedule and trigger certain displays or content based on events and based on times," Keller explains.

The system allows ASUR to manage the display of flight information, weather, special announcements and advertising.

"It's easier for us to manage [content] and provide quality service," Sanchez reports.

Keller notes another advantage: "It not only provides for a more automated system, but it also provides for a much more intelligent and holistic system, because you're tying content to flight activity or other events within the airport."

Prior to the deployment of its new centralized system, ASUR was using an inhouse development for its flight information display systems, Sanchez says.

Atypical Deployment

AirIT engineers usually implement and deploy the content management system, but ASUR took a different approach and chose to deploy its new hardware and software on its own. In this instance, AirlT developed the

software and configurations based on ASUR's requirements and deployed it in a test environment. ASUR's staff then performed all the deployments within the actual system-wide operating environment and handled the cutover to the new system. AirIT technicians consulted with ASUR's on-site technicians about followup issues.

Handling the deployment and cutover was important to ASUR, not only so its personnel could implement the product on their own, but also so they could support it afterward. The atypical arrangement, however, meant that AirlT's product had to be deployment-ready and its support materials needed to be clear and thorough enough to allow ASUR's team to launch the technology without on-site help.

"We're accustomed to deploying our own systems," Keller notes. "(At CUN), we never had access to the production environment."

Although it was an extra challenge for AirIT to rely on outside technicians to be their "eyes and ears" during installation, Keller says the process has made his team even stronger than before. "The documentation and the training had to be much better, because we relied on ASUR staff to articulate and give us the necessary information so we could troubleshoot any deployment issues," he explains.

Per its contract, AirlT will continue to provide remote software support for three years.

From Sanchez' perspective, deployment of the new centralized display management system has encouraged ASUR to consider other technology applications to help eliminate redundancies elsewhere within the operator's nine-airport network.

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Villeneuve Airport Upgrades Airfield, Adds Facilities to Prepare for Growth

By Victoria Soukup **Jensen**



factsfigures

Project: Facility Upgrades

Location: Villeneuve (Alberta) Airport

Primary Improvements: Extending main runway to 5,000 feet; installation of new ILS system; private hangar construction; addition of 2 fixed-base operators & 3 fuel providers; aviation museum under construction

Cost of Airfield Improvements: \$14 million

Funding: Province of Alberta

Average Movements: 54,000/yr.

FBOs: 2

Fuel Providers: 3

Tourism Attraction: Aviation museum currently under construction

Persistence from local aviation investors and the closure of another nearby municipal airport have spurred unprecedented development at Alberta's Villeneuve Airport (ZVL). Located in a rural area northwest of Edmonton, the two-runway general aviation airport currently handles approximately 54,000 movements per year; but traffic is expected to grow over time.

About a decade ago, Edmonton Airports began investing in ZVL's infrastructure to position it to be instrumental in the future economic success of the province. Recent improvements include a runway extension, new Category 1 instrument landing system, private hangar construction, two fixed-base operators and three fuel providers. In addition, an aviation museum currently under construction is expected to heighten the airport's visibility among the general public.

The province spent \$14 million for the runway extension and ILS. Now 5,000 feet long, ZVL's main runway can accommodate fully fueled aircraft carrying up to 15 passengers; and the new landing system, high-intensity lighting and radio signals give pilots added assistance in bad weather or poor visibility.

"The improvements provide a real solid alternate airport in the region that is not necessarily driven by commercial schedules," says Steve Maybee, director of operations at Edmonton Airports. "And



Steve **Maybee**

the new instrument landing system opens the airport to a whole new market."

Before the runway extension, pilots who wanted nonstop access to the oil sands in northern Alberta were forced to use Edmonton International (YEG), because fully fueled planes could not take off from ZVL's shorter runways. In addition, the airport's new ILS system lets air ambulances use ZVL as an alternate airport to Edmonton.

Perry McPherson, one of the few titled landholders at ZVL, calls recent upgrades at the airport "huge." After taking flight training at ZVL, McPherson bought property there 10 years ago and built a hangar.



Perry McPherson

Now, he's president of the Villeneuve Airport Owners & Operators Association.







"There's lots of people and investment coming from all over," McPherson reports. "Certainly, the Alberta economy with its oil sands helps, but with Edmonton City Centre Airport now closed, people are starting to come here."

About 14 businesses are currently based at ZVL - hangar leasing companies, aircraft maintenance shops, charter operations, flight training centers and fixed-based operators (FBOs). And Maybee expects more will follow.

"City Centre (which closed in November) was a viable airport in many areas; but with the growth the City of Edmonton wanted to achieve in its downtown core, development was restricted," Maybee relates. "Villeneuve is outside of town and doesn't have the same types of restrictions on growth and development."

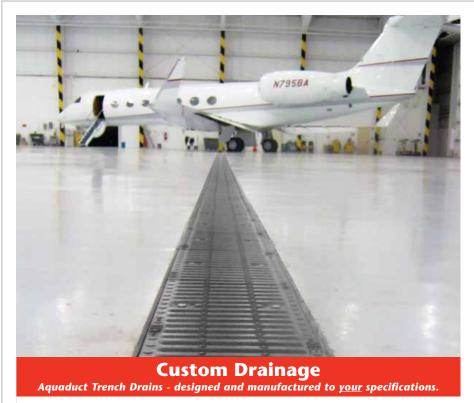
Grassroots Support

ZVL's growth began about nine years ago, when a group of local aviation investors feared the airport could be "on the chopping block," McPherson recalls. "We wanted to ensure that we had a long-term airport out here, and we understood that organizations such as Edmonton International Airport needed an official body with whom to relate."

A grassroots promotional effort by the Villeneuve Airport Owners & Operators Association targeting airport officials, local government and business groups paid off. When with the closing of Edmonton's City Centre Airport (formerly known as Blatchford Field). ZVL became the secondary airport for the area, behind YEG.

Initially built as a flight training facility on a 1,400-acre parcel, ZVL didn't have a control tower until 1982. These days. its tower operates 13 hours a day. In 2000, the airport was purchased by Edmonton Regional Airport Authority, and the province began funding airfield improvements.

Private investors have also made their mark. McPherson has a 9,000-squarefoot hangar for personal use on the









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airport land he owns and is constructing a new 12,500-square-foot hangar he plans to lease. The new hangar is one of six currently under construction at the airport, McPherson reports.

Eldon Gjesdal, a private pilot and local businessman who has been building homes in the area for the past 28 years, just completed a 16,000-square-foot hangar on a 1.2 acre parcel of land he leases from the airport. Gjesdal plans to construct two more hangars this year – a 16,000-square-foot hangar and a 7,000-square-foot hangar – which together will store about 20 single- and twin-engine planes.



Eldon **Gjesdal**

"All of a sudden, we've found ourselves in a beehive of activity," he explains. "Airplanes need a place to go, and Villeneuve fits the bill 100 percent. It is the most logical place for pilots and businesspeople from a growth perspective and a safety perspective."

The 16,000-square-foot hangar Gjesdal is building will feature a Rotating Aircraft Carrier, designed by Alvin Hand, of Innisfail, Alberta. The system, which is being marketed by Gjesdal and a business partner, is said to be about 30% more efficient than standard methods of storing aircraft.

The Rotating Aircraft Carrier stores aircraft on a framework that can be rotated around a fixed pivot and requires only one door. "You can store five airplanes in the same space, but you don't have to move four airplanes to get yours out if yours happens to be in the back," Gjesdal explains. "You just push a button and your plane rotates around to the hangar door. It eliminates hangar rash and a whole bunch of problems that go along with storing multiple aircraft in a single hangar."

The Rotating Aircraft Carrier is expected to be available soon in the United States and Canada.

Tourism Hook

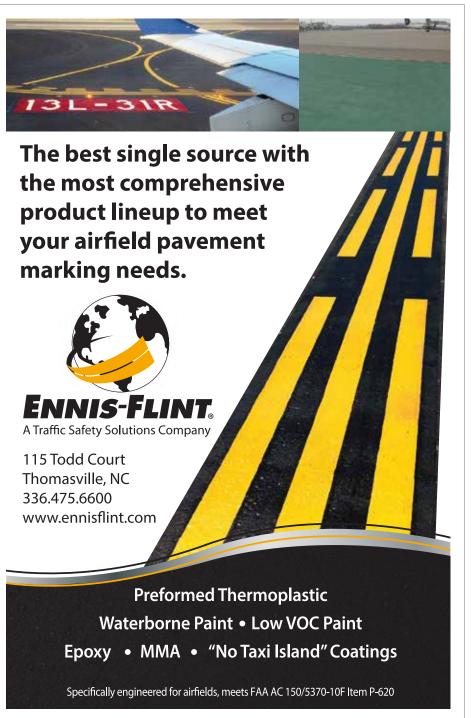
All the recent activity at ZVL has paved the way for an airport-based tourist attraction, the Alberta Flying Heritage Museum. Tom Hinderks, its interim executive director, describes the facility as an "interactive"



om **Hinderks**

and living" museum that will feature exhibits and renovated operational aircraft in a multibuilding complex on 13 acres.

"It will be a very different kind of museum," says Hinderks. "We will have operating aircraft that people can get into without supervision, including an air ambulance mockup where people can climb into the cockpit. We want



people, especially kids, to really experience the history and aviation history of Edmonton and the northern part of Canada."

Hinderks says the museum will eventually house about 35 operating aircraft and could host air shows, fly-ins, rollouts and parades. He expects the first 26,000-square-foot building, which will focus on aircraft restoration, to be completed this summer. A schedule for construction of the other buildings is still being determined.

The museum is a spin-off of the Alberta Aviation Museum, which is located at the former City Centre Airport. That museum will remain open with static exhibits and research offerings. "Villeneuve will be an operating site, where you can see things that are running and making smoke and moving and flying," Hinderks explains.

McPherson believes that the museum will be the critical piece that ties ZVL together and makes it grow. "It will provide such a different flavor," he says. "People who don't fly airplanes but like airplanes are going to trek down here to see it. We think it's a great fit for what we're doing out here."

More Growth Expected

According to Maybee, various forms of development at the airport have gone smoothly due to the good working relationships with local officials and the owners association. "The county is very

proactive and encouraged by the growth and opportunities that Villeneuve Airport brings," he says. "They want to see it go ahead, because it does spur other developments in the region. And working with the tenants and communicating information with them has gone well."

Maybee hopes that within five years, hangars will be developed on most of the currently open land and the airport will have full water service. He also hopes that fueling will be available 24/7—instead of on call — to support air traffic in the entire area.

"We have a number of operators now that have aircraft going up to the oil sands and northern Alberta," Maybee explains. "We like having an airport to relieve some of the capacity constraints and some of the pressure on the infrastructure."

McPherson predicts that ZVL will be so busy in five years that the airport will have to expand its control tower hours to handle the additional traffic. He also foresees more general development and hangar construction. "Fundamentally, infrastructure at an airport is so important," he reflects. "It's an economic driver for so many things and really needs to be supported."







Friedman Memorial Opts for Technology vs. Extra Staff to Comply with Badging Regs

By Nicole **Nelson**



factsfigures

Project: Security Regulation Compliance Location: Friedman Memorial Airport, Hailey, ID Physical Identity & Access Mgt. System:

SAFE for Aviation Vendor: Quantum Secure

Implementation: March 2013

Cost: Varies according to user volume

Key Benefits: Streamlines badging process; automates previously manual processes; eliminates multiple data entry

Computerized Security Training: SSi Access Control System: Lenel

Steve Guthrie, airport security coordinator at Friedman Memorial Airport (SUN) in central Idaho, will be the first to tell you that small general aviation airports must contend with the same TSA directives as the largest commercial airports. Guthrie will also be the first to speak volumes about the time and effort his Category III commercial services facility has saved using some of the same security-specific computer systems as much larger airports.



Steve Guthrie

As SUN's security coordinator, Guthrie's responsibilities include badging, on-site security reviews and TSA compliance reporting and monitoring. He also serves as special projects

manager, risk management specialist and executive assistant to Airport Manager Rick Baird at the leanly staffed rural facility.

"Because of the requirements that we are required to comply with by law, we had to either hire additional resources - which would have been more people - or we had to look for technical solutions," explains Guthrie. Together with the airport authority and Baird, Guthrie pursued a technical solution to eliminate double, sometimes even triple, data entry requirements and to automate previously manual processes.

Guthrie and Baird initiated a request for proposals and ultimately chose Quantum Secure's latest suite of software, SAFE for Aviation. Since last March, SUN has been embracing an array of physical identity and access management software products that eliminated the need for more personnel. The new system moved the airport's TSAadjudicated Security Threat Assessment from an entirely manual process entailing multiple data entries to a streamlined and automated flow of relevant information between



applicable systems. The result, Guthrie explains, is improved business processes.

Advantages of Automation

By using Quantum Secure's newest software suite to streamline its processes for issuing security badges and maintaining TSA compliance, SUN is taking the same approach as large Category X facilities such as Phoenix Sky Harbor International Airport. Another product, Identix, then interfaces with a fingerprint biometric technology that enables SUN to electronically capture and transmit forensic-quality ten-print fingerprint records.

Saurabh Pethe, Quantum's project manager, explains that the company's baseline software includes everything relating to credentialing within two portals: one internal browser-based portal Although SUN has far fewer staff members and operations than Category X airports, it must comply with many of the same security requirements.



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and one external portal that authorized signatories use to begin pre-enrollment entries from outside offices.

"The airport does not have to fill in any paperwork per se," Pethe notes. "The authorized signatory fills in a lot of information for the applicant and then prints the application form so they can sign it and submit it to the airport."

The trickle-down effect of SUN's new efficiencies include rapid movement, and, by default, greater ease for airport employees, he explains.

After using the system for about one year, Guthrie is enthusiastic about the timesaving Pethe describes. "Prior to Quantum, the badge issuance process would take up to an hour and a half, to include applicant interviews, data entry and badge issuance," recalls Guthrie. "Now, when an applicant comes in, he or she is out of my office within 15 minutes."

SUN also uses Quantum's Asset Manager, which assigns and keeps track of the assets (metal keys) that have been assigned to individual employees. In addition to the company's standard reporting, Friedman purchased the Security Reporter add-on product. Since deploying the new systems, Guthrie noticed a marked difference during the airport's annual badge audit process, which previously required multiple mailings, emails and phone calls. "The Quantum system allowed me to push audits up to my signatories, and it was all completed within two

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weeks instead of two months," he reports. "It has really helped in regards to compliance, because it takes the human factor out of it. The Credential Management System is automated and structured; compliance is followed to the tee."

SUN's Quantum software also connects to the Lenel's access control system it already had in place and interfaces with SSi computer-based training through a third-party system.

Guthrie describes SSi as a "fantastic partner" that has taken the airport's efficiencies to a new level. The company's automated system delivers required training to authorized signers, aircraft rescue and firefighting personnel, new Security Identification Display Area badgeholders and FAR 139 airport agents without requiring extra manpower to maintain and update training programs, he explains.

"As a brand-new employee, it can take an hour or two to take the minimally required training programs," explains SSi President Lorena de Rodriguez. At small airports, where employees are often hired a few at a time, providing staff to teach a small number of new hires can be a hardship, explains Rodriguez. Sometimes, she adds, it's just



Lorena de Rodriguez

a supervisor and one new employee. "Having an automated approach allows employees to take the training when they are able and the supervisor to provide more dedicated training about specifics – after the basics have been covered," she relates. It makes more sense for a supervisor at a large airport to spend two hours presenting training information, because classes contain more people, she continues.

Large airports, such as San Francisco International, also benefit from SSi's customized computerized training products, she notes: "Friedman Memorial has standard training programs that deliver the same efficiencies as those sought after by big airports: immediate recordkeeping and the constant availability of training to students after they have been securely enrolled in the program."

Scaled Pricing

Guthrie was pleased to discover that both SSi and Quantum allow smaller airports like SUN to pay for their systems via a monthly subscription instead of purchasing all of the hardware and software licenses upfront. Quantum refers to it as "proportionately scaled" pricing.

"Our licensing is basically like any other enterprise solution, with costing based on the number of active card holders," Pethe explains. "If Friedman has 1,000 active card holders, our licensing is based on 1,000 active card holders. For larger capacity airports — if it is 25,000 IDs — then the licensing scales up."

According to Guthrie, the investment is well worth the outcome. "I have been able to eliminate 50 percent of my paperwork," he notes. "These efficiencies have allowed me to focus on overall compliance requirements, physical security and additional job expectations."





IFPA conference includes: 1 day classroom, 1 day hands-on, final exam, & creating an airport friction plan. Spanish language sessions available. **Participating organizations**: Federal Aviation Administration and Embry-Riddle's Civil Engineering Department.



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2014 Public Safety & Security Spring Conference

The Public Safety & Security Spring Conference brings together airport safety and security professionals with officials from TSA, FAA and other agencies to discuss current challenges facing North America's airports.

This conference is co-located with the Business Information Technology and Environmental Affairs Conferences.



Let's Hear it For Expandable Design & Long-Term Planning



Joe Lopano

Joe Lopano, chief executive officer of Tampa International Airport, previously worked at Dallas/Fort Worth International for 14 years as its executive vice president for marketing and terminal management. Overall, he has 22 years of airline and airport expertise.

When Tampa International Airport (TPA) opened in 1971, it was regarded by many as a state-of-the-art wonder, especially for a city of Tampa's size at the time. It was the first airport in the world with a "people mover" system and automated baggage carousels; and it was designed so passengers would walk no more than 700 feet from parked car or curbside to plane, or from gate to gate. Its spoke-and-hub layout was, and still is, convenient for both planes and people.

But perhaps the most visionary aspect of the original design is that it was built to grow in phases, over many decades. I realized just how critical this would be when I became the airport's CEO three years ago and was tasked with seeing TPA through its biggest expansion since 1971 — and currently one of the largest airport construction projects in the country.

Now serving nearly 17 million passengers annually, we predict a doubling of passenger growth over the next 20 years. Our strategy for handling this growth, as outlined in our 2012 Master Plan update, includes three phases. First, we plan to decongest our main terminal. Secondly, as passenger demand dictates, we will complete enabling projects to pave the way for expansion. And finally, we will add and grow airsides.

In developing our current master plan, we remained true to the original principles of TPA's groundbreaking design while doubling the capacity of the airport. We are also diversifying revenues through new concessions and real estate development, and preserving land on the airport's 3,300-acre campus for even more future growth.

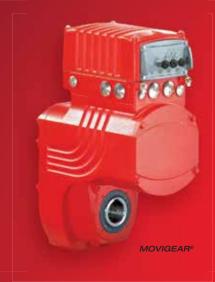
Previous master plans called for a whole new terminal on our north property, which planners had believed was necessary once we began serving 25 million annual passengers. We chose instead to build on the flexibility of the great design of our existing airport structure, devising a plan that allows us to expand the main terminal to accommodate a 20-year growth of up to 34.7 million passengers while leaving the north property available for later generations.

The latest plans call for expanding the main terminal onto decks that were built more than 40 years ago with just such expansion in mind. We will also build a consolidated rental car center connected to the main terminal by a people mover similar to the system that has connected the terminal to the airsides for decades. Eventually, when our passenger numbers require it, we will "plug in" a new airside, taking advantage of the airport's highly flexible hub-and-spoke design. We are also in the process of redeveloping the airport's concessions program, moving from a 43-year-old master concessionaire model to one that will allow for multiple operators, new concepts and a more efficient use of space in the expanded main terminal.

We know that a lot can happen in 20 years. Carrying out our construction projects in three phases allows us the flexibility we need to make the best decisions based on passenger demand and other factors over time, rather than build something we may not need for years or needed years ago. By continuing to analyze needs in the Tampa Bay area over time, we're confident TPA's Master Plan will create a facility that will be used and loved by passengers and visitors for the next 20 years and beyond.









Too much baggage?

When asked to reduce system costs, you usually look at leaning out staff and tagging operational inefficiencies. But, do you really have a handle on energy costs? Independent research has proven that the MOVIGEAR® Mechatronic Drive System from SEW-EURODRIVE can reduce startup and operating costs by 20-30%. Suitable for both new construction and retrofits, MOVIGEAR® combines the motor, gear unit and electronics into one ultra-efficient unit. Alternatively, the DRC Electronic Motor provides an ultra-efficient motor and electronics package as a retrofit for those gear units already in your system. MOVIGEAR® or DRC? Either way...you won't be left holding the bag.

