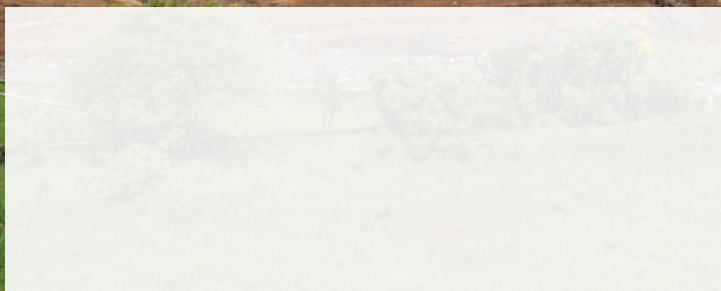


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COME**

Saint Vincent and the Grenadines is improving access to the tropical paradise with a \$270 million international airport



**A Q&A With
Dwight Pullen:**
Skanska's New National
Aviation Director

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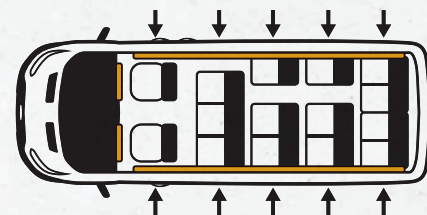
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^{††}Medium roof shown.



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Easy access is needed to grow tourism. Saint Vincent and the Grenadines is improving access to its tropical paradise with a \$270 million airport set to open in December

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Business Media

AVIATIONPROS.com

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Airport Business (USPS 001-614; ISSN 1072-1797 print; ISSN 2150-4539 online) is published 8 times per year in Feb/Mar, April, May, Jun/Jul, Aug/Sep, October, November and Dec/Jan. Periodicals postage paid at Fort Atkinson, WI and additional entry offices. Change of address or subscription information: Toll Free: 877-382-9187, Local: 847-559-7598, Email: circ.airportbusiness@omeda.com. POSTMASTER: Please send address changes to Airport Business, SouthComm Business Media, LLC, PO Box 3257, Northbrook, IL 60065-3257. Printed in the USA.

Canada Post PM40612608. Return Undeliverable Canadian Addresses to: Airport Business, PO Box 25542, London, ON N6C 6B2. Canadian GST #842773848.

Vol. 29, No. 8 October 2015



INSIDETHEFENCE

Ronnie L. Garrett
Editor



What Passengers Want

Travel delays happen but airports can lessen the sting through great customer service

Lately I've been the victim of travel delays. It took me 36 hours to return home on a recent trip to the Caribbean; mainly because of airline delays. And just this week I spent 12 hours getting from the Midwest to the West Coast. These experiences got me thinking a bit about customer service and what passengers coming through your airports really want.

First, while I love the quality and variety of food in airports today, there are definitely not enough grab-and-go food options for travelers racing from one gate to another. The lines at the ones that do exist can be considerable as well, which is not at all useful when time is at a premium.

Frequently airports also seem to lack enough restrooms for the passenger populace. When the line stretches out the door—as it often does—passengers have to wait till they get on a plane.

When you are running--and yes, I was running in my recent travel experiences—from one gate to another, you need to be able to purchase food and use the restroom in minutes.

Two examples of great customer service occurred on a recent trip. While neither happened at the airport, both made me feel better about the journey. On an American Airlines flight, I asked to buy a snack but they were out of them. The flight attendant rummaged around and found something for me to eat—free of charge—saying I looked like I needed it. The other instance happened at O'Hare International's on-airport hotel. Upon hearing

that my baggage hadn't made it, the clerk filled a bag with an apple, a granola bar, water and toiletries. Now this is customer service!

This level of customer service is attainable at airports as well through the use of business intelligence, says David Chambers, vice president of North American Sales for SITA. Chambers says airports struggle with business intelligence but adds that this data can help facilities boost customer service. It can help get passengers through security more quickly, direct them to restaurants and retail outlets, and get them to their gates efficiently.

And, passengers, who experience less stress from the parking garage to their gates, spend more money at the airport. Halifax Airport's Paul Baxter recently told *Travel Retail Business* that the more stress-free the airport environment is the more retail/concessions spending airports can expect to see. "Retail spend definitely falls off if passengers have a negative experience," agrees Chambers.

So use the data you have to simplify the parking process, lessen time spent in security queues, direct passengers efficiently to their gates, and provide enough restrooms as well as retail/concessions outlets. Boosting customer service reduces traveler anxiety, which in turn leads to happier customers and increases in non-aeronautical revenue—both things airports can use.

While you can't control travel delays, you can control customer satisfaction. And passengers like me will thank you for it.



UNITED STATES HOME TO MOST CONNECTED AIRPORTS

The United States is home to eight of the 10 most connected airports in the world, according to a study by OAG, a global air travel intelligence company. Hartsfield-Jackson International Airport topped the list as most connected, offering more than 570,000 possible connections during an eight-hour window on a single day in August. Chicago O'Hare, Dallas-Fort Worth, Charlotte Douglas, George Bush Intercontinental and Detroit Metro were near the top of the list as well. In total, the study found 22 of the top 50 mega hubs are located in the United States.



We reach you how, when and where YOU choose!

First I want to congratulate Ronnie Garrett, executive editor of *Airport Business* for her prestigious TABBIE award for editorial excellence in the feature article category. Take a bow Ronnie as this is truly a great honor for you and *Airport Business*!

I also want to personally thank you for reading *Airport Business* magazine. You are in good company as this magazine has the largest circulation in the industry with award winning editorial in the airport segment for a reason ... Airport leaders, brand specifiers and decision makers like yourself turn to *Airport Business* to learn about and share the latest trends and best practices. AviationPros Group has also grown our multimedia products and services to help you perform your job even better!

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Our research shows airport leaders count on *Airport Business* and its comprehensive digital products within the AviationPros Group to supply daily news and information as it's needed. If you're not receiving our free digital products register at www.AviationPros.com (look for box (right) and click on subscribe ... then choose the products that fit your needs),

and take advantage of the information your peers and competitors already count on.

I am proud of what the AviationPros Group accomplished in 2015 and am actually more excited with what we have in store for 2016 and beyond. *Airport Business* and AviationPros have many new partnerships with associations and industry leaders to make sure you have the knowledge and tools to be a leader. Look for a new thought-provoking video editorial series called "On The Mark" featuring aviation expert Rob Mark. Mark is seen on CNN, CNBC, BBC and many other media outlets as an industry expert. We have partnered with him to launch a unique, cutting-edge video editorial series on issues in aviation. Make sure you sign up for our digital products to receive "On The Mark" and other digital offerings to complement the print offerings we already deliver.

We will continue to invest in our properties to bring you the best print (award winning) and digital products in aviation. Please contact me anytime with ideas, suggestions or comments on how we are doing or what we can do to help support you and the industry. Brett@AviationPros.com Com' on Aboard!

Brett Ryden
Publisher, Aviation Group

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Henriksen Jet Center Offers World's Largest Arrival Canopy

According to Weather.com, Houston and Austin, Texas, averages almost 100 days per year with temperatures of 90 degrees Fahrenheit. Needless to say, Texas is hot, but the Phillips 66 Aviation branded Henriksen Jet Center has a convenient solution for customers landing at its Houston and Austin facilities to beat the heat—arrival canopies. While both FBO facilities have this amenity, Henriksen Houston boasts the world's largest

FBO arrival canopy, measuring 32,800 square feet. Pilots and passengers alike can deplane in the shade, under a roomy space large enough to cover a pair of Boeing Business Jets parked side by side.

In addition to their canopies, what makes these FBOs unique are the fact that they both service privately owned airports—Houston Executive Airport and Austin Executive Airport. Ron Henriksen, who is still very involved with the day-to-day happenings, owns both.

When Henriksen established the jet center and both executive airports, he knew the private facilities would offer a huge benefit to pilots. Since there are no commercial services at either airport, pilots and travelers can enjoy quick turns and limited delays at the state-of-the-art, upscale facilities.

Service offerings at both full-service FBO facilities include 24-hour operation, Phillips 66 Aviation jet-A and avgas fuel, a VIP parking garage, aircraft ground cooling and long-term ground leases.

The facilities at Austin Executive Airport are highly regarded by pilots, this year recognized as one of top 20 percent Highest Rated FBOs in the Americas in the 2015 Aviation International News FBO survey. Henriksen



and Houston Executive Airport mainly supports business travel, with facilities located close to the bustling Energy Corridor of the city. They were voted the No. 1 ACE FBO, a top 50 U.S. FBO and a TOP 25 Star FBO in Fltplan's 2015 Pilot's Choice Awards™.

To learn more about Henriksen Jet Center, visit their website at www.houstonexecutiveairport.com and www.austinexecutiveairport.com.

Alaska Airlines ...

Names 25-year employee Wayne Newton as managing director of its Seattle station.

American Airlines ...

Announces Laura Glading, president of the Association of Professional Flight Attendants, is moving up her resignation.

Atlantic Aviation ...

Has been selected as the winner of the

request-for-proposal process for a second FBO at Salt Lake City International Airport.

Avfuel ...

Adds two UK FBOs—Marshall Aviation Services and Private Jet Company—to its network, bolstering the company's presence in Europe.

BBA Aviation ...

Which owns Signature Flight Support, enters into a stock purchase agreement to acquire the

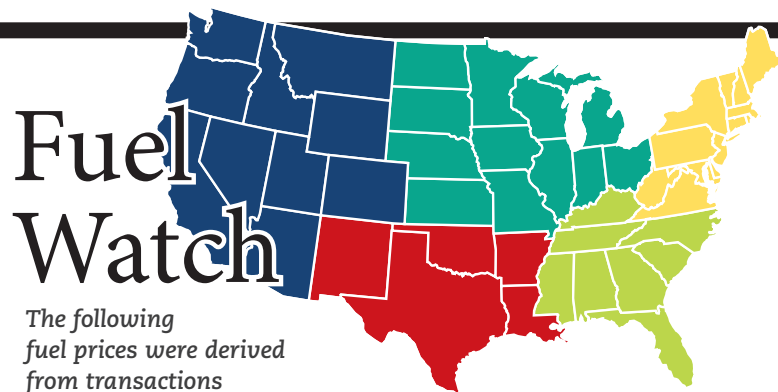
Carlyle Group's Landmark Aviation for nearly \$2.1 billion.

Bradley International Airport ...

Conducts a disaster drill for first responders.

Buffalo Niagara International Airport ...

Is adding a lactation room for nursing moms. The room, located post-security, across from Gate 14 in the East Concourse will have outlets for breast pump machines and a lock on the door.



Fuel Watch

The following fuel prices were derived from transactions completed with the AVCARD credit card during May. Not all operations sell both jet-A and Avgas. The figures for jet fuel prices will be more representative than those for Avgas, due to the higher number of transactions recorded. Prices reflect all taxes and discounts. Data is supplied from AVCARD in consolidated format; individual transactions are not disclosed.

West Coast

Jet-A: \$4.06

Avgas: \$5.31

South Central

Jet-A: \$2.33

Avgas: \$4.63

Southeast

Jet-A: \$3.60

Avgas: \$4.97

North Central

Jet-A: \$3.96

Avgas: \$5.13

Northeast

Jet-A: \$3.80

Avgas: \$5.26

CLEAR ...

Announces its expedited traveler service is coming to Austin-Bergstrom International Airport.

Concessions International ...

Announces plans to open a Chick-fil-A at the Denver International Airport in mid-2016 in the center food court in Concourse B.

DFW International Airport ...

Lowered its landing fee to \$1.13 per 1,000 pounds in September, to give airlines a break after another outstanding year.

Eastern Aviation Fuels ...

Provides fuel to more than 500 Shell-branded FBOs in the United States, having added more than 30 branded locations in the first eight months of this year.

Epic Aviation ...

Dispatched more than 2 million gallons of aviation fuels between July and mid-September to FBOs and fire bases supporting aerial firefighting operations in the Western United States.

Fitch Ratings ...

Raised its outlook on more than \$8 billion in O'Hare International Airport debt to positive.

Fort Wayne-Allen County Airport Authority's ...

Real estate and development committee approved a lease agreement between the airport and the airlines operating there.

Frankfurt Airport ...

Hosts a groundbreaking ceremony to mark the official beginning of construction of its new Terminal 3.

Frontier Airlines ...

Wants to downsize to eight gates and reduce the amount of space it has by nearly 11,000 square feet under a proposed lease amendment with Denver International Airport.

JetBlue Airways ...

Opens its own "farm" on a 24,000-square-foot tract of land at John F. Kennedy International Airport.

Lawrence Airport ...

Closes runway as work begins on a \$2.3 million reconstruction of the 3,900-foot concrete slab.

Louisiana Regional Airport ...

Is set to nearly triple in size after a 28-acre land purchase. The airport currently is home to about 100 aircraft on its 15 developed acres.

Metropolitan Washington Airports Authority ...

Announces that, beginning November 1, Uber and Lyft will be added to the list of authorized ground transportation options.

Monterey Regional Airport ...

Allows Uber to pick up passengers at the airport

Niagara Falls International Airport ...

Recently welcomed its 1 millionth passenger to western New York.

Phillips 66 Aviation ...

Appoints Jeremy Wheeler as director, supply and military exports for general aviation.

San Diego International Airport ...

Launches The Good Traveler, a pilot program designed to encourage sustainable travel

by enabling individuals easily to offset the environmental impact of their journey.

United Airlines ...

Has begun remove all eight moving walkway belts in Concourse C of Terminal 1 at O'Hare International Airport, stating the passenger convenience "gets in the way."

Vino Volo ...

Opens a location at Mitchell International Airport near Gate C17.

Wiley Post Airport ...

Will receive an \$8.1 million facelift to improve its primary runway and upgrade signage, runway lights and other navigational aids, the Oklahoma Aeronautics Commission said this week.

Wings For Autism ...

Lands at Portland International Airport to help families with autistic children practice air travel.

Yeager Airport ...

Approved a contract to launch TSA PreCheck operations to expedite security screening.

How to Orchestrate the Airport Construction Project

Dwight Pullen, Skanska's new National Aviation Director, says sweet harmonies among the stakeholders of airport projects can be achieved through partnership and collaboration.

The stakeholders of an airport project need to function like the musicians in an orchestra. The players of the many musical instruments in an orchestra must work together in sweet harmony. The instruments can make a lot of noise and accomplish very little or they can make beautiful music. With an airport project, the key is to look for sweet harmonies in the way stakeholders operate, which is best accomplished through collaboration and partnering, according to Skanska's new National Aviation Director Dwight Pullen, who joined the international project development and construction group less than six months ago.

"The key is to get everyone playing off the same sheet of music," Pullen says.

Pullen, a civil engineer by education, began his career in program management of airport projects. In this role, he managed major capital programs. Hartsfield-Jackson International Airport's fifth runway was his first major project as program director. After completing this \$1.2 billion dollar runway, Pullen worked as program manager of a \$9 billion expansion project at Abu Dhabi International Airport. He spent three years there before heading to Colorado to oversee Denver International Airport's \$544 million, on-site hotel and train station project. Four years ago, Pullen switched to the global business development strategy side of aviation where he led a large engineering company to do more work in airports in Latin America, the United States, Asia-Pacific, Europe and the Middle East.

Airport Business recently caught up with Pullen to talk about his plans for his new role at Skanska.

HOW DID PROJECT MANAGEMENT PREPARE YOU FOR SKANSKA'S AVIATION CENTER OF EXCELLENCE?

It's prepared me in at least three areas. The first is I've always lived and worked, if you will, in

the owners' offices. The owners in this case are the airports. I've had to learn to think the way airport operators think. You live with their challenges and their opportunities. You learn the internal business processes and the complexities of getting a major capital program done at an airport. As a program manager, you really get an appreciation for the challenges, the timing, and all the stakeholders. You keep a real focus on the passenger and on ease of flow through airports during major construction.

The other thing, from my experience as a program manager/construction manager, is that you learn all the different roles—what the planners do in the early days of airport development, then the designers, the architects and engineers, and the role of contractors.

Finally, I obtained a real appreciation for the magnitude and the size of some of these programs. What it takes to really spend a billion dollars at an airport—it takes sometimes up to six to eight years to really do that—and all that goes into it. In the last several years, I've learned more about bond markets and working with airlines on reimbursable agreements. There are all types of things necessary on the financial side to pull off these major programs.

ON WHEN TO BRING IN A CONTRACTOR ON AN AIRPORT PROJECT ...

The old school model was to do all planning and design, then get a contractor. But if you bring contractors ... in on Day 1 as partners, then you leave less room for error.

ON SHARING CONSTRUCTION WITH PASSENGERS ...

The old way of doing construction is to board everything up because you don't want passengers to see. But how can we bring passengers into that experience? ... people are interested in seeing what's happening, especially if you're flying through an airport you haven't flown through and there's a bunch of construction.

ON PLANNING FOR TECHNOLOGY ...

Airports have to think about that 10, 15, even 20 years in the future. It takes a bit of a visionary to think ahead that far. You're not going to always get it right. But if you build some flexibility for technology and have some real guidelines it helps.

WHAT GOALS DO YOU HAVE FOR THE AVIATION CENTER OF EXCELLENCE?

The first is to build on a great foundation and take it to the next level. Skanska's a well placed company in the industry, well thought of and well known.

We're going to focus on being a lot closer to our airport and airline clients in order to fully understand how to partner with them. They're evolving. In the industry it's really tough to fund these projects; federal funding is becoming less and less. They're looking for creative partners in the sense of P3s and privatization of construction, and things like that.

The way our business is set up, it's really tough to do projects by yourself. You've got to build strong relationships with other delivery partners; architects, engineers, other contractors and sub-contractors. Bringing some of my national relationships to bear and working with our local teams will also be a big focus.

One of our goals is to grow our presence at airports. We have really good penetration and we want to become airports' partner of choice.

HOW CAN AIRPORTS PROVIDE AN ACCEPTABLE PASSENGER EXPERIENCE DURING CONSTRUCTION?

You're talking about terminal projects where airports have to maintain operations and keep flights going as they renovate or expand. So, it starts with requiring collaboration and starting conversations early. The old school model was to do all planning and design, then get a contractor. But if you bring contractors, like Skanska, in on Day 1 as partners, then you leave less room for error. As contractors in construction being there as close to the beginning as possible allows us to have a real appreciation for passenger requirements and minimizing disruptions to operations. We've got to start looking at the service providers that do work at airports as delivery partners that work collaboratively.

One of the key things we (airports and consultants) have to do is work together in a partnering and collaborative way. A lot of airports already require that and are very intentional about it. Other airports are not as intentional but want it. We differentiate ourselves when we consider ourselves as partners. A partner wants to bring innovative ideas to the table. A partner will take almost a stewardship-type role with the



As project construction manager, Skanska was part of a multi-million upgrade to Houston's George Bush Intercontinental Airport.

project, and take it personally if there's an issue with a passenger.

HOW DO YOU GO ABOUT FORGING SUCH PARTNERSHIPS?

It really starts with the way the procurements and solicitations operate. Airports issue either a Request for Qualification or a Request for Proposal. But if you try to partner at that stage you're too late. You need to build relationships early, whether it's at conferences or over a cup of coffee when you're not chasing a project but just having discussions with the industry.

The whole idea of public and private partnerships is to have early discussions and to know the construction industry. It comes down to trust. A lot of airport directors and their teams have had some bad experiences. When you have a bad experience in construction you tend to protect yourself. You tend to be not as trusting. It's incumbent on both sides to build authentic relationships and partnerships very early.

When an airport is doing master planning, that's absolutely the right time to engage the airport and start understanding its needs. The industry is responding to that. I'll be very honest with you I don't know that every airport is the right partner. It comes down to culture, fit and the relationship. It's all emotional IQ type stuff, but it's really important.

WHAT ARE SOME SIGNIFICANT TRENDS IN AIRPORT PROJECTS?

You're seeing aging infrastructure, especially at U.S. airports. With airline consolidation and the upsizing of planes in the airline fleet, the infrastructure is not keeping up with shifts in the airline industry. A lot of terminal renovations are coming about because of the need for larger hold rooms or waiting areas at the gate. There's also a need for more concessions and retail to keep people occupied. Of course that works in the airport's favor because there's more revenue.

There is a need for innovation; for contractors, architects and engineers to think innovatively. No one wants to have years and years of construction in their airport, they want to get it done as quickly as possible.

We have to be pretty innovative with how we interact. You can have live construction, but you need to communicate with the passenger when it comes to navigating the airport. We need to ask how we can connect with passengers during construction?

There are ways to do this. Give people a peek. Construction has always been interesting to people, so when they see it they're interested. How can you make that more interesting? The old way of doing construction is to board everything up because you don't want passengers to see.

LIFE WITH DWIGHT

- ▶ **Middle Eastern Living:** I loved it. My four sons loved it. My wife loved it. For the ex-pat, life there feels like resort living. It's really awesome. The labor structure is completely different in the Middle East. You can get access to everything, you're not going without. Our greatest walk-away from living there for three years was interacting with different cultures. We had neighbors from all over the world. Our children grew up with people from Ghana, Germany, France, South Africa, Australia and New Zealand.
- ▶ **Home Sweet "Techie" Home:** I can't live without my espresso machine. I also really like technology and have built smart technology into my home. I love music, so we have technology that allows us to play music throughout the house. We don't have technology for technology's sake, but technology that really meets a need and is pleasurable.
- ▶ **Bitten by the Travel Bug:** Believe it or not, when I'm not in an airplane or airport I'm in an airplane or airport. My wife and I love to travel. We've been to weddings in Hong Kong. We've taken our children through Egypt before the Arab spring. We've taken cruises. When we're not traveling, we're planning to travel. It's a big deal for us to enjoy the beauty of this world and take in different cultures.



But how can we bring passengers into that experience? Whether it's video displays or the way we advertise the project, people are interested in seeing what's happening, especially if you're flying through an airport you haven't flown through and there's a bunch of construction. Maybe you use an app so they can take a virtual site tour.

WHAT CHALLENGES EXIST WHEN WORKING ON AN EXISTING BUILDING?

One of the biggest challenges I see with existing infrastructure is no one wants to shut down gates. But you have to minimize passenger walk times. If you're doing construction you almost have to take people on a detour, just like if you're working on a road. Detours mean longer walk times. How do you get people through that destruction quickly and economically?

Also, if you haven't built anything in 30 or 40 years, you've got code issues, environmental issues and utility issues. It's really hard for an airport to know everything that's below ground. When you're about to start a major program, you should first do a complete utility master plan to full understand what's beneath the surface. Really good airports do condition assessments. They know the conditions of their assets well

before they start designing construction. It's smart to fully understand the asset you have, the condition of that asset, and how you want service providers to navigate through that asset, and design and expand on an asset.

Airports are like little cities. They have utilities, but they don't always manage the utilities. Sometimes you're dealing with municipal water and another big power and gas utility company. You've got to have agreements with these entities years before, so they understand what's coming because some portion of that site belongs to them.

You also need rock-solid agreements with your airlines. These are really tough programs when there's a lack of trust between the airlines and the airport.

Construction is construction. It's easy to get things built, but if you want to do it without major impact to operations, passengers, revenue and stakeholders, it really takes early partnering and a lot of communication upfront.

HOW DOES NEW TECHNOLOGY AFFECT AIRPORT PROJECTS?

I actually think it's a real challenge with major programs. They have to design today for technology needs eight years from now. No one has a

crystal ball; the designers don't know, the IT professionals don't know. They work in six-month increments with information technology. You've got to build in flexibility, which is probably a bit more costly, but you've got to build in flexibility for changes in technology.

Paying attention to the passenger and what they are doing is so important for your infrastructure needs. How many people are using mobile boarding passes versus paper boarding passes? What impact does that have? This drives your ticket counter configuration. Do you really need 80 ticket counters? Do you need more kiosks? What do you really need? You might not need as much physical infrastructure if you're taking advantage of self-check kiosks.

You have to build in tremendous flexibility into the infrastructure; it's the floor plates, the size of the ticket halls, and how you keep going from one terminal function to the next terminal function. How will technology impact it, and let's dream a bit of where it's going.

Airports have to think about that 10, 15, even 20 years in the future. It takes a bit of a visionary to think ahead that far. You're not going to always get it right. But if you build some flexibility for technology and have some real guidelines it helps. Every airport should have a technology and sustainability master plan, where they're thinking about technology and sustainability on a very broad scale so that it influences their capital investment.



The ARK at JFK: Keeping Animal Cargo Afloat

Starting in mid-2016, animals traveling through JFK will have a new, \$48 million terminal at their owner's disposal that includes short- and long-term boarding, veterinary services and luxurious accommodations that would be the envy of most first class travelers.

A brand new, \$48 million cargo hangar project is underway at John F. Kennedy Airport's long-empty Building 78. The ARK at JFK is the first privately owned, full-service animal terminal in the United States.

Lufthansa Cargo AG

The ARK, a subsidiary of private equity firm Racebrook Capital, will serve as a hub for all animal cargo, quarantine and transportation needs going in and out of JFK. A number of different animal service providers are already signed as tenants for cargo, boarding and veterinary services, says The ARK's Managing Director Dr. Aaron Perl.

"They are spending hundreds of millions of dollars over the next few years to completely upgrade the cargo infrastructure," Perl says. "One of those pieces is the import and export of animals through JFK which will happen exclusively through The Ark at JFK."

ARK Development LLC, The ARK's development company, signed a 30 year lease to develop the then-vacant Cargo Building 78 at JFK in January. The lease came with a budget bump to

Making sure your animals arrive safely isn't as easy as slapping a "fragile" sticker on the side.

\$48 million and estimations of 180 new jobs and \$108 million in revenue over the life of the lease.

The ARK represents a new option for animal carriers coming through New York City. Animal handlers are currently using the outdated Vetport facility, built in the 1950s, to handle veterinary and boarding services during animal stops. Perl says that JFK has been looking to replace the Vetport facility for the past 10 years.

LOADING THEM TWO-BY-TWO

The ARK's main cargo tenant and exclusive animal cargo handler, Consolidated Aviation Services (CAS) comes with a long-established animal cargo history.

"They have a great deal of experience in addition to being North America's leading cargo handler," Perl says. "They've also handled most of the animals coming in and out of JFK for the last few years."

CAS does, in fact, already handle approximately 80 percent of the horses that come through JFK, according to Phil Jensen, director of sales and marketing at CAS.

"We also operate in five large cargo buildings here," Jensen says. "We have a lot of resources, a lot of staff and a lot of experience.

BY THE NUMBERS: FRANKFURT ANIMAL LOUNGE THE ARK

at JFK's staff haven't publicized exact capacity and volume expectations, but The ARK's Managing Director Dr. Aaron Perl compares The ARK's capabilities to that of Europe's leading animal travel hub, Lufthansa's Animal Lounge in Frankfurt. Here is the Frankfurt Animal Lounge's annual animal volume, by the numbers:

- ▶ 2,000 horses
- ▶ 14,000 dogs and cats
- ▶ 80 million ornamental fish
- ▶ 8,000 pigs
- ▶ 150 zoo animals

Source: www.lufthansagroup.com/en/the-men/animal-lounge.html

We handle 44 airlines at JFK."

For CAS, shipping and handling "even small animals" is "big business," according to Jensen. CAS's specialty includes working within the animal care programs in place with many airlines so that travelers can bring their pets with them.

CAS is signed on to handle 50 percent of all cargo for Building 78, home of The ARK. That means that general cargo will also be unloaded there alongside animal cargo. CAS, as the main cargo tenant at The ARK, will service airlines picking up and dropping off animals at The ARK. AirFrance-KLM (AFKLM), one of the world's foremost airlines for those shipping animals, currently handles live animals at JFK in Building 261 and is signed on with CAS as The ARK's main airline tenant.

Jeff Metzelaar, AFKLM's manager of cargo for variation products including live animals, says that the current setup at JFK is being done

under strenuous conditions, especially when Northeastern weather rages to the extremes in both summer and winter.

"JFK being the biggest import and export station for horses faces the disadvantages of a long acceptance process and long transportation from the warehouse to the restricted Airport Operating Area," Metzelaar says. The advantage of The ARK, according to Metzelaar, is that all animal handling will be done inside the warehouse and more than makes up for the longer transport time from Building 78 to JFK's Terminal 4.

"The ARK will have all activities for live animals done indoors with no negative influence of any weather condition," Metzelaar says. "On top of it, the handling in general will be done in a more effective way resulting in a short throughput time in general. The fact that any animal will have a more suitable environment, not only for handling, but also climate-wise, makes The ARK one of the best live animal locations in the country." Metzelaar says that The ARK will be able to hold between 40 and 50 horses for the required five-hour rest period between travel intervals.

"We have the world leading carrier of animals," Perl says. "With North America's leading cargo handler moving into our building as our anchor tenant."

SAILING IN FIRST CLASS

The ARK's creature comforts are planned to be second to none. The hangar is slated to house a veterinary facility for any necessary service, but will focus on pre-travel screening. The veterinary services are provided by East End Veterinary, a New York-area animal hospital, with assistance from the Cornell University College of Veterinary Medicine and has been designed using specifications directly from the USDA. Having veterinary services available on-site means cargo handlers don't need to worry about sources for pre-travel screenings.

Most of the buzz surrounding The ARK has, to this point, revolved around the luxurious boarding facilities that will be available for cats and dogs at staying at Paradise 4 Paws, The ARK's boarding tenant. Other Paradise 4 Paws locations in Chicago and Denver offer bone-shaped swimming pools, play areas for both large and small dogs, training, grooming and even massage therapy. Cats staying at Paradise

MANAGING AIRPORTS TODAY

4 Paws won't exactly be slumming it either.

"The cats will have their own wing with bungalows and the Cat Adventure Jungle where they can romp around the climbing trees and stalk the fish in the aquarium," Johanna Newcomb, chief marketing officer (not a typo) at Paradise 4

Paws says. "Aside from some layout differences due to building differences, our resort for the ARK at JFK will be very similar to our other resorts."

The use of tenants, as opposed to operating each aspect of The ARK themselves, is a key to

the project's success, according to Perl. "We're here to play with everyone else," Perl says. "We are not going to put other people out of business."

The ARK itself serves as a coordinator of services more than as a service provider. Perl calls The ARK a "turnkey" solution for all animal cargo services required by the shipping and cargo industry and says that, finally, all of those services will be under one rather large roof.

"The shippers will continue to be the main point of contact for the owners of horses and livestock," Perl says. "They will handle all of the processes, they will interact with the airlines, with the cargo handlers, and The ARK."

FILLING THE ARK

Perl compares The ARK's potential to that of Lufthansa's Animal Lounge in Frankfurt, a state of the art European facility that serves as the standard for worldwide animal shipping.

"If you take Frankfurt for example, they see 14,000 dogs and cats a year," Perl says. "We believe JFK should be able to handle that capacity."

Federal regulations require that horses rest for five hours between travels. Imported horses also must be quarantined to check for infectious disease when they arrive in the United States. In New York, that meant trucking horses over 80 miles to the nearest quarantine facility in Newburgh, NY.

The boarding facilities at The ARK meet all



TOP: San Francisco International Airport – Air Traffic Control Tower | LEFT: Fort Lauderdale-Hollywood International Airport – Expansion of Runway 9R-27L | RIGHT: Los Angeles International Airport – Tom Bradley International Terminal

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of the requirements necessary to reduce extra travel and stress for both animals and cargo handlers alike.

"Let's say the horse is trucked here from Chicago," Jensen says from his New York office. Before being loaded onto the plane, Jensen says, the horse has to rest for five hours, minimum. "He has to go into a care center or into a stall and be rested before he's flown to the next destination."

It's that extra care that separates animal cargo from shipping goods. Obviously, making sure your animals arrive safely isn't as easy as slapping a "fragile" sticker on the side.

"As a professional pet shipper, it is essential that I have access to an on-site veterinarian for a pet with any medical emergencies while in transit," says Sally Smith, owner of Airborne Animals and past president of the International Pet and Animal Transportation Association. "There are other facilities across the globe, but ARK will bring these luxury accommodations to John F. Kennedy International Airport, one of the country's major hubs and replace the very old, current facility."

Perl's excitement about The ARK is palpable and contagious. To be fair, the prospect of these once-disparate services being offered in one place is exciting. Still, Perl says there's a lot of cooperation that needs to be followed through on to achieve success, but that "partners and tenants are waiting in

line" to hold their spot in The ARK.

"If we wish for anything, it's to see this building become functional and operational," Perl says. "And for this model to change the face of the cargo industry and the animal transport industry in particular."



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The horse storage facilities at the ARK will fulfill the federally required 5-hour rest period for horses in between legs of travel. Previously horses would have to be driven more than 80 miles to the nearest quarantine facility in Newburgh, NY.
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BUILD IT AND THEY WILL COME

Easy access is needed to grow tourism. Saint Vincent and the Grenadines is improving access to its tropical paradise with a \$270 million airport set to open in December

Running a resort in a Caribbean vacation destination when it lacks direct access to an international airport can be a logistical challenge. Operating one on an island that requires two flights—a commercial airliner from Barbados and a prop jet from Union Island—just to get to it can be a logistical nightmare. Yet it is a challenge Katie Rosiak, general manager of Palm Island Resort, faces every day.

Not only do visitors to the tropical island situated on the southern tip of Saint Vincent and the Grenadines need reliable access to air travel but, according to Rosiak, so do the workers on the island and the cargo planes transporting supplies to it. Ordering supplies to stock the resort's restaurant and bar, 43 guest rooms and more requires careful preplanning; as Rosiak points to the unpredictable timeframe for customs in Barbados to release provisions then the time it takes to transport them to the resort.

This situation slows tourism industry development and growth on the lush island of Saint Vincent and the idyllic archipelago of 32 tropical islands and cays known as the Grenadines, according to Ralph Everard Gonsalves, the prime minister of Saint Vincent and the Grenadines. Though the region has long held a reputation as a prime location for diving, sailing and vacationing, limited access has driven tourists to other destinations with better air service.

When Gonsalves addressed a group gathered at Methodist Church Hall years before work began in earnest on an international airport for the region, he was asked two questions: Does Saint Vincent and the Grenadines really need an international airport? And if we need one, can we afford one? He responded with "The requisites of economic diversification and regional and international competitiveness demand an international airport."

He added to his statement in August with, "If you want to have a dramatic lifting of tourism and investments in hotels and allied businesses, you need to have access."

Gonsalves made the first remark in 2005, and his comment started the region on a journey that is nearing completion today. Soon—

hopefully by year's end—crews will finish work on a new \$275 million international airport on 400 acres of land with a 9,000-foot runway designed to accommodate jets as large as a Boeing 747. The 135,000-square-foot terminal is designed to handle up to 1.5 million passengers per year.

"This is a game changer. It allows us to do business as our sister islands do business," states Dr. Rudy Matthias, CEO of the International Airport Development Company Limited (IADC), the organization formed to help facilitate the funding, construction and management of a new international airport in Argyle on the island of Saint Vincent.

no future in expanding ET Joshua; we had to find a different site," Matthias says.

Technical studies recommended two alternative sites on Saint Vincent—one in an area called Kitchen on the south eastern side of the island and the other in Argyle on its eastern side. On August 8, 2005, Gonsalves selected Argyle as the location of choice. He notes this was the more cost effective of the two options.

Choosing a site to build on was the easy part, however. It takes a lot more than a site to get an airport built on a small and financially constrained island. According to Matthias, the main stumbling block has always been financing. The nation could not support the airport development on its own nor could it borrow the money for a new airport because it would have made its debt ratio too high, a risky proposition that would have left the country with little money for other needed projects.

"For 50 years, everyone talked about an international airport, but no one could conceive how it could be done," says Gonsalves. "But I've never seen anyone cross a chasm in baby steps; sometimes you have to take a leap."

As the prime minister since 2001, Gonsalves took that leap and rallied friends in governments across the globe to put together a creative financing package that included grants and soft loans. "I felt that if President George Bush

JUST THE FACTS

A few facts about Saint Vincent and the Grenadines:

- ▶ The country is located in the eastern Caribbean, **100 miles west of Barbados**.
- ▶ The population is approximately **106,253**.
- ▶ There are **more than 32 islands and cays** that make up the region, and nine of which are inhabited.
- ▶ There is an **active volcano** on Saint Vincent that last erupted in 1979.
- ▶ The **oldest Botanical Garden** in the Western Hemisphere is located on Saint Vincent and was founded in 1765.

TAKE A LEAP

Saint Vincent already had an airport. ET Joshua Airport, once known as Arnos Vale Airport, located in Arnos Vale on Saint Vincent Island, has served as the region's gateway for years. However, this airport's 4,000-foot runway wasn't long enough to accept commercial jet traffic and extending it wasn't possible—there were too many natural obstacles in the way. "There was

could put together a coalition to bomb Baghdad, I could put together a coalition to help build an airport in Argyle, which is what I did," he says.

His work led to aid from friendly countries, dubbed by Gonsalves as the "Coalition of the Willing," including Cuba, which supplied engineering and technicians; Venezuela, Trinidad, Tobago, Mexico, Libya, Georgia, Iran, Austria, Turkey, Malaysia, Taiwan, China and the United

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An aerial photograph of an airport complex. In the foreground, a large, modern airport terminal with a curved, white roof is visible. To the left, a large hotel building with a sign that reads "HOTEL KEMPINSKI" is situated. The background shows various airport buildings, including a prominent air traffic control tower with a glass-enclosed top. The overall scene is a busy airport environment.

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States. Saint Vincent also sold state land elsewhere to purchase airport land and existing properties on that land.

"We had to move three mountains, valleys, a church, cemeteries and 135 homes to create this airport," Matthias explains.

BREAKING GROUND

The government held a groundbreaking ceremony on July 13, 2008, and officially began moving earth on August 13, 2008; a fitting date says Gonsalves given that it's Fidel Castro's birthday and Cuba is one of the main supporters of this development.

Since then construction crews have been a common sight in Argyle. Originally slated for completion in 2014, the work has been hampered by weather and will not be complete till year's end. The region gets 65 inches of rain a year, and as Matthias states, "Pavement and construction work is a challenge because of the weather. Asphalt and rain are not a good mix."

The passenger terminal and electrical substation were designed by Taiwanese firm, CEDI

"There was no future in expanding ET Joshua; we had to find a different site."

**RUDY MATTHIAS, CEO,
INTERNATIONAL AIRPORT
DEVELOPMENT COMPANY LIMITED**

Engineering Consultants Inc., while another Taiwanese firm, Overseas Engineering and Construction Company Ltd., secured the contract to construct these buildings. Two smaller buildings—the airport control tower and the firefighting and rescue station—are complete while the cargo terminal building is in process right now.

Franco Construction built the control tower base while Aeronav, a Candian company, assembled the control cabin and shipped it to Saint Vincent. INNOTECH of Barbados constructed the ARFF facility, which will house up to four fire tenders. The airport's 40 firefighters attended training at DFW Airport Fire Training Research Center.

The passenger building is near completion and workers are currently installing the equip-

ment needed to make the airport operational. A baggage handling system, shipped from New Zealand, was recently installed. It includes five conveyor belts: two large conveyor belts in the arrivals hall, one large conveyor belt in the check-in area, and two small belts in the domestic terminal, one outbound and one inbound.

The airport also features two jet bridges in the international terminal to service wide body aircraft. "Because we get a lot of rain, the bridges were a feature we needed to keep passengers dry," says Matthias. "The building is designed to accommodate the jet bridges."

Concessions and retail at ET Joshua consists of a duty-free shop and a tiny retail outlet selling a small selection of snacks and tschotchkes. The new airport will have 7,000 square feet of shopping space, half of which will be allocated to duty-free shops. It will also have a roof top patio where passengers can grab drinks or some grub. The IADC is currently negotiating contracts on the space, and its goal is to have a significant portion of the airport's revenue come from these shops to keep airline ticket costs low. Matthias jokes he'd like to see 95 percent of the airport's revenue come from these shops.

The airport is also in talks with airlines, and will open for general aviation traffic first until commercial service comes online. The IADC has been in contact with airlines for the past three years, but the airlines need to see a completed facility and a management team in place before they will commit to bringing routes to Saint Vincent, states Gonsalves.

AS GREEN AS THE WATER IS BLUE

"This will be the most energy efficient airport in the Caribbean," says Glenn Beach, CEO of the SVG Tourism Authority for Saint Vincent and the Grenadines.

Part of the project includes a 218 kVa solar energy farm, which will initially generate approximately 35 percent of the airport's solar light and air-conditioning needs.

"It will be the first part of a wider program of power generation to meet the needs of the airport at peak demand and full operation and it is expected that at full generation any excess electricity will be made available through the grid to the rest of Saint Vincent," reported Ambassador Lorne McDonnough, the CEO of the CARICOM Development Fund which helped fund the project. "The CDF is promoting greening, or environ-

mentally friendly energy projects, in the region and is striving to establish the plant at Argyle as a flagship for the initiative."

This will make Saint Vincent's Argyle the second airport in the region to be solar powered, following the debut of the solar farm at St Kitts' Robert L Bradshaw International Airport.

Gonsalves underscores the importance of the airport's solar project saying, "If we have cheaper

"If you want to have a dramatic lifting of tourism and investments in hotels and allied businesses, you need to have access."

**RALPH EVERARD GONSALVES,
PRIME MINISTER, SAINT VINCENT
AND THE GRENADINES**

energy, we can better compete." He notes it will take approximately 17 years for the solar energy plant to completely pay for itself.

The airport also employed green initiatives in the construction by establishing asphalt and concrete batching plants on the airport's eastern side. These plants provided quick asphalt delivery and hydraulic concrete for pavement on the airport runway and aprons. "All of the material used in the asphalt came from here," Matthias says. "We crushed it on site and used it here."

BUILD IT AND THEY WILL COME

The airport, which will employ 150 to 200 people not including concessions/retail or airline employees, is designed to accommodate up to 1.5 million passengers a year. Currently, 100,000 tourists pass through the region annually, but within five years Gonsalves predicts that number will climb to 300,000+. When questioned as to whether the airport is oversized, Gonsalves says it boils down to the old chicken and the egg argument. He says to grow tourism in the region, they first need the infrastructure—and that starts with an amply sized, modern airport.

"The airport is not built for today, tomorrow, this year or next year, it's built for the future," he explains.





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The Ascent From Gallon Zero

How Hawthorne Aviation successfully built and launched a new FBO at Chicago Executive Airport



It's a gutsy move to build an FBO from the ground up—not only is it necessary to construct a functional facility but one has to build the business too. It's not as simple creating a place for business aircraft to land.

It's even more challenging to build a thriving FBO business at an airport that already has two. Yet that's exactly what Hawthorne Global Aviation Services, a leader in general aviation services since 1932 achieved at Chicago Executive Airport (PWK), the third busiest airport in Illinois.

The successful FBO operator, which also manages jet charters and handles aircraft operation and management for corporate clients, viewed the Windy City's growing business airport as a perfect fit for its third FBO location, despite the fact two FBO businesses, operated by Signature Flight Support and Atlantic Aviation, already called PWK home.

"We started from Gallon Zero—we didn't have a business at this location. Ninety-five percent of our growth is from good old-fashioned shoe leather marketing ..."

**DAVID ANNIN, GENERAL MANAGER,
HAWTHORNE AVIATION
CHICAGO FACILITY**

David Annin, general manager of Hawthorne's Chicago facility, notes the 8-acre site at the bustling airport offered the perfect opportunity for a greenfield project. "This is the premier general aviation airport in the Midwest market," he says. "It's just 17 miles northwest of the Chicago central business district and in close proximity to the north shore. The area is home to 31 Fortune 500 companies, 29 of which are in the Chicago metro area, and 23 of which are closest to PWK."

The 40,000-square-foot facility opened for business in March 2014 and nearly 1 ½ years later business continues to rise. "We've seen a nice steady increase every month that we've been open," says Annin.

Annin attributes the successful launch to a number of things, including Hawthorne's ability to set itself apart through outstanding customer service and solid safety practices. He also points to a well thought out marketing effort.

"We started from Gallon Zero—we didn't have a business at this location," he says.

"Ninety-five percent of our growth is from good old-fashioned shoe leather marketing; talking to flight departments and letting them know we are here. From there, word of mouth is huge. If you can get them here and back that up with good service, value and price, they

will return and bring others with them."

Hawthorne has found that attracting customers begins with a beautiful facility and ends with service and value, and the 82-year-old company manages to serve up all three. "We are committed to expanding the Hawthorne network of

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The goal was to create a homey, inviting feeling in the main part of the facility. This was achieved with a fireplace, comforting earth tones and woods, and local art lining the walls.

FBOs. We are creating a boutique network of premium FBOs," says Bryon Burbage, president of Hawthorne Global Aviation. "We have committed capital to sponsor our growth by acquisition into a sizable network."

THE TERMINAL

Hawthorne's \$8 million PWK facility is nestled near the intersection of Palatine Road and Milwaukee, just northwest of Chicago. The project sits on real estate once occupied by Priester

Aviation, a section of the airport known by many pilots as the "old main ramp," according to Annin. Because of its previous history, the site housed a number of buildings that had to be removed before construction began.

Hawthorne teamed with consulting firm Avian Solutions LLC; architect Timothy Morgan Associates; and Chappel Design-Build in Roselle, Ill., for the project. The goal was to fashion a unique building and avoid an institutional look and to maximize the value for the money spent.

PRESERVE THE PAST CHICAGO

Executive Airport (PWK) has served the Chicago area since the 1920s and is currently jointly owned by the Village of Wheeling and the City of Prospect Heights. Once the Prospect Heights side of the airport was a hub of activity, but eventually the hustle and bustle migrated to the north side. Hawthorne Aviation's new facility marks the first development on PWK's south end in nearly two decades. The new building rests on a site where several older buildings were demolished to make room for it. But as they built new, Hawthorne Aviation did its part to preserve the past. As part of its recent project, the FBO fashioned a monument out front to honor the airport's history. The bricks in the monument came from the 80-year-old Hangar No. 1, which was demolished as part of the project. The airport's original beacon, which has been rewired and relit, sits atop this brick monument and lights up at night. "We wanted to recognize the past and the history of the property as we built a brand-new, state-of-the-art facility," says David Annin, general manager of Hawthorne's Chicago facility.

The final goal for the project was to be on time and on budget. All three goals were achieved, states Annin. "Construction took about 10 months; we started in May 2013 and opened in March 2014," he says.

The finished structure and approximate 5 acres of apron space denote first class all the way. They designed the terminal, which is attached to the 30,000-square-foot hangar, with comfort in mind, striving for it to have a country club feel. "We achieved that by including a gas fireplace, fine millwork and more," states Schuyler Thiel, an architect at Timothy Morgan Associates.

"There are a lot of great facilities out there that are kind of cold and industrial feeling," Annin says. "We wanted a homey, inviting facility with a lot of wood and a fireplace. We had a phenomenal carpenter who did all of the woodwork; all of it was custom built, the mantel, the shelving."

The 10,000-square-foot terminal offers an unrestricted open floor plan with high ceilings and expansive views of the airfield. Work from local artisans adorns the walls and is accented by earth tones, dark wood trim and tiled flooring. Several different lounge seating areas provide comfy upscale seating, while a 10-seat A/V-capable conference room offers space for private meetings. Other conveniences include a fully stocked coffee bar and beverage center and luxurious restrooms with showers.

Visitors access the well-appointed reception area from the lobby but also from the line shack. "We put reception and line operations ramp side so they can see what's going on," says Annin.

Twenty-four security cameras monitor the facility inside and out, 24-7. They are positioned in such a way that staff can easily monitor the area. "We set the system to different views for different areas. The front desk watches certain cameras, the line shack monitors certain cameras," he says. "It's mostly for security but it also gives us a chance to provide better service. If we know we have a plane and passengers coming in, we can watch the cameras and know when their cars are pulling up. We can get out there and help with bags and such before they are even out of the car."

THE HANGAR

Hawthorne's impressive new hangar can house Gulfstream 650, Embraer Legacy and Global Express aircraft with ease. "We have the ability

to handle every business jet made today with the exception of the Boeing BBJ," says Annin.

The hangar offers airside access through a 28-foot-high bottom rolling door, which opens fully to 160 feet. The hangar is bright and white and clean with banks of windows at various heights on the east and south walls facing the hangar door. There are windows in the hangar door at eye level to give workers a clear view of the apron and airport activity.

A high priority was put on making sure everything had a place and everything was in that place. "When you walk into a lot of hangars, you see stuff littering every wall," he says. "We wanted a clean space. When it's clean and everything has its place, you're safe as well. There is an opportunity for accidents when things are not put away." The hangar includes side storage closets for tenants to store parts, manuals, log books, tools and other aircraft supplies.

Hawthorne installed radiant heat, which

heats the floor and other surfaces. This keeps warm air by the personnel on the floor rather than up high by the roof. "The makeup time is much better," says Annin. "You can stand on the floor and feel the heat coming into your legs. And when you get inside an aircraft after it has sat here for awhile, it's warmer inside the aircraft than outside because it heats the metal."

The hangar is made of TextureWall panels instead of the precast concrete found in older hangars. TextureWall panels look like stucco and complement the facility's split-face masonry foundation. "We didn't want any insulation sag," Annin says, noting the system utilized an all-steel panel from Butler called a sandwich panel, which is rigid steel on the outside that's prepainted by the factory with a foam core inside. The panels fit together like a tongue-and-groove floor. "The ease of construction is phenomenal, the insulating factor is also phenomenal and you don't get any insulation sag,"

he says. "And it doesn't look like what most people think of when they hear steel building. They think corrugated, ugly steel and that's it. This is a really beautiful option."

"The panel itself is a more energy efficient option than a typical wall panel system," adds Thiel. "Just being a sandwich panel makes it more energy efficient, and then the joints between the panels are gasketed."

With the building complete and business booming, Hawthorne has set aside space for another 40,000-square-foot building in the future. It is their hope that they will be able to replicate at PWK what they've already done in other parts of the country. "Hawthorne in its 80+ year history has a long solid reputation as a first-class provider," says Annin. "We have a long history and reputation of being very business oriented, and that's what we're trying to build a legacy around. It's really about the people and the service we provide."



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When the doors need to open, it helps to have the right doors in place. Here's a guide to making good hangar door decisions

Doors are a human portal. Doors make it possible to enter and exit a building. Doors lock out those who are not welcome, and grant entry to those who are. Doors protect the valuables and inhabitants of a structure. Choosing a proper hangar door can be one of the most important decisions in hangar construction.

When specifying a hangar door there will be a multitude of items to consider. The primary concerns will focus on door type, door cost and safety regulations and code requirements. There are several hangar door types and variations to choose from. The most common types encountered are: Overhead, bi-fold and sliding.

DOOR TYPES

Overhead doors are operated by a counterweight attached to cables and an electric

motor, or they can be hydraulically operated. These doors act as a large moving wall that will swing out to the full open position. This outward swinging motion dictates that additional space will be needed as the area, at least that equal to the size of the door, will need to be clear at all times for door operation. It is recommended that windows be installed in this type of door so that any potential obstructions to operation will be clearly visible. When open, these doors sit at a cantilevered, flat, 90

degrees. Water and snow can add significant load to these. When thinking of installation, keep in mind that these should be installed at a slight angle for water run-off. The one-piece hydraulic door will exert additional force on the hangar header when open, and create stress on the frame, hinges and building itself. The hangar design will need to account for this added load.

Hangar doors that fold in half horizontally then raise vertically are referred to as bi-fold doors. Bi-fold doors have a distinct advantage over the hydraulic one-piece door in regard to space requirements. As this door type opens by raising upward, less space is required in front of the hangar for door operation. This allows for increased usable space. Bi-fold doors, when fully open, provide a natural slope that will allow for water and snow to run off. When fully open the hydraulic one-piece exerts considerable force on the building's header, the bi-fold is folded in half when fully opened and exerts only minimal force to the hangar end-wall. This results in less stress on the structural



Photo courtesy of Schweiss

components, door frame and hinges.

Traditionally, these operate through a system of electric motors and cables. Schweiss (www.bifold.com), a leader in hydraulic one-piece and bi-fold doors, utilizes patented lift-strap technology in its installations. These lift straps, attached to the door, wrap around a lift drum as the door is opened.

This lift strap technology can alleviate many of the maintenance and repair costs associated with cable operated bi-fold doors. Cables are steel and susceptible to rust. The lift strap is made of durable, long lasting polyester, that has three times the life of cables. The lift straps do not tangle or get crossed, and are easy to adjust for tension.

Sliding doors, crossover doors, are equipped with a roller that follows a track on the floor and moves horizontally. These can be electric operated or manually operated. Sliding doors that must cover a large opening utilize

multiple panels, on multiple tracks. The door panels need additional space to the side, door pockets, which can prohibit use of the hangar's full span. When these are utilized on a T-hangar configuration, while one aircraft is accessing the hangar, the neighboring units will be unable to do so. These doors are reliable, easy to use and relatively inexpensive making them an attractive option.

DOOR COSTS

Based on national cost estimates from various sources and manufacturers, door prices can vary. Doors are priced per face square footage, with additional costs incurred for installation. The sliding-type hangar doors can start at around \$15.60 per square foot. The bi-fold type door has a base cost of around \$18.10 per square foot. Costs will vary based on a number of factors, including size, installation and any special features. The base per



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The most common types of hangar doors are overhead, bi-fold and sliding, and there are inherent advantages and disadvantages to each.

square foot price may be lower for a hangar that requires a smaller door. Hangar doors for a large corporate hangar with multiple rolling leaves will have a much higher base price per square foot.

Hangar doors can be specially designed with advanced characteristics. These designs may include doors having such features as acoustic filtering, doors with low reverbera-

tion, blast resistance, electromagnetic interference/radio frequency shielding and special corrosion-control options. These specialized doors can cost as much as the structure itself.

A consideration for choosing a hangar door type must be to ensure that the door meets the airport guidelines and code requirements. Airport and FBO requirements can vary from site to site. Construction code requirements are adopted and enforced by each state, but are often based on National Fire Protection Association (NFPA) standards.

DOOR REQUIREMENTS

NFPA 409, *Standard on Aircraft Hangars*, defines hangars and hangar groups, and out-

lines construction and fire protection requirements. NFPA 409 provides specific door guidance for Group I, Group II and Group IV hangars.

Group I hangars are those with an aircraft access door height of over 28 feet, *or* a single fire area greater than 40,000 square feet, *or* having the ability to house an aircraft with a tail height of over 28 feet. Group II hangars have an aircraft access door height of 28 feet or less *and* a single fire area of less than 40,000 square feet (based on construction type). Group IV aircraft hangars are the type constructed of a membrane-covered rigid steel frame.

Hangar doors are required to be constructed of noncombustible or limited combustible materials. Non-combustible and limited

Hangar doors are required to be constructed of noncombustible or limited-combustible materials.

combustible materials are those that “will not ignite, burn, support combustion or release flammable vapors, when subjected to fire or heat” This limits the material to either a metal or a concrete. In Group IV hangars, this requirement only applies to those with a single fire area of more than 12,000 square feet.

The door power source is required to operate on an independent circuit that will not de-energize when the main disconnect switch is shut-off. This allows for the continued operation of the hangar doors, even in the event of a facility power shut-down. Additionally, this allows only the doors to be de-energized for maintenance and repairs, while the rest of the facility remains operational. Vertical doors are required to be counterbalanced. Horizontal sliding and accordion-type doors must be capable of manual operation. In areas where freezing temperatures can occur, door tracks or door edges are to be protected with heating coils

to prevent ice formation on the door track that could prevent or delay door operation.

When planning a new hangar and making a door selection, it is important to take the time to determine the specific needs and limitations of the hangar space. What door type will work best? Can a sliding door be used, or will it interfere with adjoining spaces or operations? Is there enough room in front of the hangar for a hydraulic overhead door, or do we need the space that a bi-fold will make available? Is the hangar designed for the additional load of a hydraulic overhead or bi-fold door?

What will be the cost of this door? What is the base square foot price? Does the size required change increase or decrease the base price? What special features or characteristics may be needed for this door, based on the proposed hangar use? What will this door cost to install and maintain?

Does this door choice meet code require-

ments and FBO guidelines? Is it constructed of proper materials? What power considerations need to be addressed? Is this door capable of manual operation? Does a heat source need to be provided to the coils? Taking the time to work through these questions and research the available options will result in a successful hangar project that is capable of meeting current and future hangar needs.



ABOUT THE AUTHOR

Aaron Johnson

Aaron Johnson has been in the fire protection and life safety industry for nearly 10 years. He began his career as a firefighter, then transitioned to fire prevention. He currently serves as fire marshal for a Fortune 100 aircraft manufacturing corporation. He also blogs about fire protection and life safety issues at www.TheCodeCoach.com.

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From Car to Check-in to Boarding Gate

Travelers seek a full airport experience from the time they arrive on airport property till the time they leave the ground

Airport managers who want to increase profitability while improving customer satisfaction are seeking innovative ways to streamline the many difficulties faced by travelers while offering sought-after services and amenities. The field's top leaders recognize that providing an exceptional passenger experience is the best competitive advantage—one that ultimately generates an increasing income for the airport.

Providing end-to-end services—from the parking garage, to checking in and boarding the plane quickly, to helping find the car upon return and making payments easy—all improve the travel experience while creating customer loyalty.

For many airports, working with the right aviation facility services firm who can both streamline operations, often through world-class technology, and provide all these services means increased net profitability, and perhaps most important, improved customer satisfaction.

HOW THE MARKET HAS CHANGED

Once airports themselves had little competition, with fewer major hubs and, essentially, a sole emphasis on aviation-related revenue. But economic downturns, unpredictable prices, lower airfares, increased unemployment, frugal leisure travelers and reduced corporate travel budgets have combined to mean fewer flights, shrinking operating budgets and reduced profits.

But as travelers become more technologically adept, they are demanding better, faster and more personalized services. They seek the options and airports that best meet their needs.

Facing fierce competition and a huge dent in aeronautical revenue, airport operators are pressured to make up for lost income and regain their competitive edge.

USE PARKING TO BOOST REVENUE

Technology and the push to offer additional benefits for consumers has produced many new and creative ways for airports to leverage parking and transportation. Some of the most innovative ways airports are improving the customer experience are through:

Mobile Apps: Modern travelers are on the fast track, and it's all about ease, speed and convenience for them. Their main concerns include:

- Making travel arrangements
- Getting to the airport quickly and efficiently



- Having an exceptional experience while at the airport
- Returning home as quickly as possible

Mobile apps for smartphones and devices can address all these concerns and help make dealing with the misperception of parking chaos a lot easier. Mobile apps connect the dots for travelers and put the parking and travel information they need right at their fingertips.

The next wave of new parking applications for smartphones and mobile devices will allow drivers to quickly and easily make reservations, find the airport, pinpoint available spaces and park their cars. The faster and easier we make it for passengers to park, the more time they will have to indulge in other non-aeronautical transactions.

PARKING AUTOMATION

Modern airport travelers are all about convenience. They expect the latest and greatest technologies and innovations to help them get in and out of the airport as quickly as possible.

Parking Analytics: Automated toll-booths, online reservations and parking guidance systems result in a highly efficient operation. These capabilities also help airport operators reduce payroll related costs and capitalize upon displaced resources in the form of customer service ambassadors. Automation also supports green initiatives with less paper, provides better visibility into transactions, and improves reporting accuracy and timeliness.

GPS in Shuttles: Global Positioning System (GPS) navigation technology is one way airports are making sure shuttle drivers are where they need to be. Airport shuttles, hard-wired with GPS trackers that transmit locational data at regular intervals, can provide information on airport shuttle drivers' speed, productivity and arrival and departure locations. This assures travelers a more efficient shuttle experience.

Lighting Retrofits and EV Charging Stations: Most lighting is outdated, inefficient and requires frequent maintenance. Through a lighting retrofit, airports can take advantage of the latest in high-efficiency lighting and advanced controls to significantly reduce energy use and maintenance costs—while ensuring travelers enjoy a brighter more vibrant atmosphere. Lighting upgrades can reduce the electrical load of a parking facility, often allowing for electric vehicle charging stations to be installed without having to upgrade existing infrastructure.

THE 'AEROTROPOLIS'—RETAIL SERVICES

Around the world we are seeing passenger terminals morph into luxury shopping malls and gallerias featuring brand-name boutiques and specialty retail; gourmet dining restaurants with regional cuisine, entertainment venues complete with live music and art and cultural attractions, as well as centers for knowledge exchange and booming business. Concierge-staffed business lounges and trade facilities are also sprouting up in the terminals, as well as concourse-connected convention centers and high-end hotels.

Remaining Competitive: The aerotropolis is fully expected to play a huge role in

American aviation going forward. It is poised to become the standard among large airports. Airports seeking to differentiate themselves will have to continue to raise the bar in other ways as well:

Operational Excellence: It is essential for airport operations, infrastructure, processes and service offerings are all on point. Operationally, airports must run as efficiently and cost effectively as possible all the time. Those that excel at customer service, and orchestrate and facilitate all facets of the airport value chain will maintain a competitive edge.

Destination Retail Targeting: Global airports such as Heathrow are offering high-end retail experiences, personalized concierge services, and other targeted services and campaigns. This creates an expectation of excellent service that establishes brand loyalty and maximizes a traveler's spend while in the terminal.

TECH TO IMPROVE SERVICE

Competitive airports stay at technology's leading edge in order to reduce congestion, optimize operations, improve customer service and maximize overall net profit.

One key area technology is helping airports enhance the services they are required to provide is to wheelchair clients under the Air Carrier Access Act of 1986 (ACAA). Airlines are facing challenges to remain in compliance and typically contract wheelchair services to outside providers to effectively provide wheelchair clients with prompt service, which is required under the act. Using integrated flight and passenger data feeds, along with innovative tracking technology, such as near field communication (NFC), contracted attendants can be optimally dispatched quickly to assist wheelchair clients when needed.

Another service area, which can make or break the passenger experience, is airport cleanliness. Now advanced far beyond mop and bucket, some commercial cleaning management services contractors are using historical and real-time flight history data to track large

influxes of passengers, building janitorial staffing schedules to ensure staff are always on call and dispatched accordingly to keep all areas within the airport terminal clean.

Finally, certain aviation service providers are deploying ambassadors throughout airports around the globe. In ABM's case, ambassadors at London's Heathrow Airport are equipped with tablet devices across all terminals at key arrival, departure and connection locations. The ambassadors, many of whom are multi-lingual, provide various operation support including informational hosting, check-in assistance, compliance handling, flight connections assistance and e-passport support. The tablets carried by the ambassadors enable real-time reporting of what is happening across the airport's terminals—from queue times to frequently asked traveler questions—providing a wealth of information with passenger satisfaction top of mind.



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Bird vs. Plane

In the war of bird vs. plane, will a compost factory near an airport increase bird strikes?

Less than five years after Montreal's international airport lobbied against a plan to build a compost factory at the end of its runway, a similar facility is being planned near another Canadian airport.

In 2011, officials at the Montréal–Pierre Elliott Trudeau International Airport argued that a compost factory should not be built on

airport land because food scraps would attract birds and birds can collide with airplanes.

"It was (supposed to be built) less than a

kilometer away from the end of the runway. Airplanes would have passed above the factory," says Christiane Beaulieu, the Montreal airport's vice president of public affairs.

The airport, which employs five trained falcons to chase away the less educated birds from the skies, refused to rent its land to the City of Montreal for the construction of the factory.

But now a similar facility is being planned near a smaller airport nearby. The Saint-Hubert Airport, which is located south of Montreal, is the ninth busiest airport in Canada, handling

Compost and garbage laying around attracts birds which can contribute to plane crashes. Photo taken at an indoor compost facility in the province of Ontario.



approximately 150,000 flights per year within the province of Quebec. The airport has a flight school and welcomes airplanes with as many as 42 passengers.

In the next five years, an indoor biomethanation compost plant is scheduled to be built less than a mile away from the runway used by its flight school—transforming leftover food, grass and leaves into compost and biogas that will be used to produce electricity. The factory will cost \$85 million to build, and will have the capacity to treat 70,000 tons of organic material per year, produce 30,000 tons of compost and 6.5 million cubic meters of biogas. The biogas generated by the plant can be used as fuel for buses or as electricity to heat homes. It will be one of the largest—and most advanced—electricity-generating compost factories in North America.

“I never saw a bird following a garbage truck.”

**CHRISTIANE BEAULIEU,
VICE PRESIDENT OF PUBLIC AFFAIRS,
MONTRÉAL-PIERRE ELLIOTT TRUDEAU
INTERNATIONAL AIRPORT**

All together, the treatment plant will help to decrease greenhouse gases by approximately 10,000 tons annually by reducing the transportation of waste to landfills and by cutting down on the consumption of fossil fuels, according to a fact sheet on the facility.

The spokesman for the City of Longueuil, where the government-subsidized compost plant will be built, says the facility will not attract wildlife because all the garbage will be inside the building.

“Since it will be a closed building, and since none of the garbage or edible waste will be accessible, the biomethanation facility will not attract birds and other animals,” the city’s spokesman Renaud Beauchemin wrote in an email. “The construction of the plant should not lead to any increase in the number of birds near the airport.”

The factory will install odor-reducing filters and devices that use negative pressure to keep the smell of rotting food from escaping, according to Beauchemin. There will be no ponds for ducks, herons or seagulls to swim in, and coniferous trees will be planted rather than other

MONTREAL AIRPORT’S FOX PROBLEM

IN addition to birds, Montréal-Pierre Elliott Trudeau International Airport has a fox problem.

While an airplane that runs over a fox on the runway does not usually sustain serious damage, a second airplane can slip on the carcass of the dead fox, says the airport’s Vice President of Public Affairs Christiane Beaulieu.

To keep foxes away, airport workers make sure the vegetation near the airport does not harbor insects or animals that foxes can eat.

“We take a lot of measures,” Beaulieu says. “We have to be vigilant all the time.”

To keep birds away, the airport camouflages ponds with floating balls and works with biologists to capture, sterilize and relocate birds and their eggs. Trained falcons remain an important part of the bird-control program, because other birds don’t stick around when falcons are in the air, Beaulieu says.

By the way, San Jose International Airport also had a fox problem years ago. In 1991, the Los Angeles Times reported that three foxes were crushed under the wheels of airplanes within a half hour. In response, the airport took measures to trap and hunt the animals.



REGULATIONS CONCERNING COMPOST FACILITIES NEAR AIRPORTS IN THE UNITED STATES

ACCORDING to the FAA’s guidelines, composting facilities near airports should not contain any food.

“Composting operations that accept only yard waste (e.g., leaves, lawn clippings, or branches) generally do not attract hazardous wildlife,” says the FAA Advisory Circular on the subject of Hazardous Wildlife Attractants on or near airports. “The compost, however, must never include food or other municipal solid waste.”

The FAA guidelines also state that composting operations should not be located on airport property.

However, these are only recommendations, not requirements. The FAA reviews composting facilities near airports on a case-by-case basis, according to FAA Spokesman Hank Price.

“It depends on what the material is, how far it is from the airport, and what is currently located in the location where the composting facility is proposed,” Price wrote in an email. “It may be that the land use it is replacing may be more of an attractant for wildlife than the type of composting facility, thus potentially reducing the wildlife hazard.”

The FAA recommends that airports monitor wildlife activities near composting facilities.

types of trees because coniferous trees provide fewer places for birds to land. In addition, “any external structures that produce heat or can serve as shelters also will be designed to be inaccessible to birds,” Beauchemin wrote. The doors of the factory will be shut while garbage trucks unload their cargo inside the factory, and the trucks’ wheels will be washed before they are permitted to exit.

FLOCKING TO THE AIRPORT

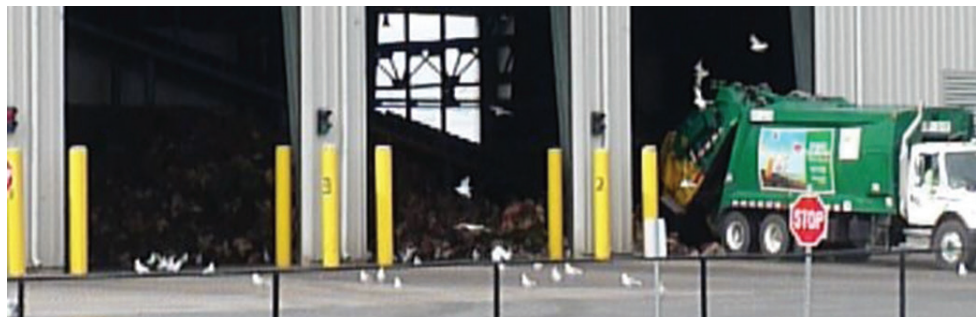
But Montreal airport officials say that even with all these measures, birds might still flock to the area.

Back in 2011, the Montreal airport hired consultants to visit two similar indoor compost factories in the province of Ontario and take photographs. “You can see (on the photos) that birds fly around there,” Beaulieu says.

Garbage trucks that will bring food to the factory are another concern, she says.

“Have you seen a garbage truck before? There is always some garbage that falls out of it,” Beaulieu says. “They would have trucks waiting in line to get into the factory. Garbage trucks that wait for 15, 20, 30 minutes—for the airport that could be a risk.”

According to plans for the compost facility near the Saint-Hubert airport, there will be 20 trucks per day bringing organic waste



including food to the plant in the summer and winter and 45 trucks per day in the spring and autumn to account for extra leaves and grass.

“Before they exit the factory, the wheels of the garbage trucks are cleaned, but when they come in, they are not cleaned,” Beaulieu says.

MANAGE WILDLIFE

The Canadian government does not outlaw composting factories near airports, but there is a recommendation according to which a compost facility should not be located within a 5-kilometer (3-mile) radius of the airport, according to Anne Marcotte, the Montreal airport’s director of communications.

The Canadian government does require all certified airports to have a wildlife management plan in place, according to Lesley Husbands, a spokeswoman for the Quebec

region of Transport Canada. The Saint-Hubert airport already put such a plan in place, she says.

The Saint-Hubert airport occasionally has birds colliding with airplanes. There are generally between two and three bird strikes per year, according to General Director Michel Beaudoin—but most of these are not serious, he says, because the bird hits an airplane’s wing rather than the engine. The seagull is the species that causes the most problems for the airport, Beaudoin says.

Airport officials use whistles and shoot blanks into the air to scare away birds with noise.

“Some weeks we do nothing. Some days it’s three or four times per day,” Beaudoin says.

Beaudoin says he is not particularly concerned about an indoor compost factory near the runway.

“It changes nothing. They could have put a company there or an apartment block or condos,” he says. “But if it had been an open-air dump—that would have been a different story.”

When asked about the possibility that some food might fall off the garbage trucks, he laughed.

“I never saw a bird following a garbage truck,” he says.



MONTRÉAL–PIERRE ELLIOTT TRUDEAU INTERNATIONAL AIRPORT COMPOSTS LEFT-OVER FOOD FROM ITS RESTAURANTS

WHILE THE

Montreal airport opposed an industrial compost factory near its runway, the airport does compost the leftover food from its own restaurants.

Two years ago, the airport began sorting the garbage generated inside its terminals into organic waste and other types of rubbish. About half of all the garbage produced at the airport is organic.

“We sort it—just as we sort plastic, glass and paper for recycling,” says Anne Marcotte, the director of communications at the airport. “It goes to another place where it’s treated.”

The leftover food from airplanes that land in Montreal is not composted, however, she says.

ABOUT THE AUTHOR

Julie Masis

Julie Masis is a freelance journalist. Her stories have been published in the Globe and Mail, the Montreal Gazette, the Guardian, the Boston Globe, the Christian Science Monitor, and in other newspapers and magazines. In addition to Canada and the United States, she has reported from Cambodia, Vietnam and Myanmar.





Drones: Passing Us By?

Eventually—probably sooner than later—you may have pilotless aircraft flying parallel approaches into your airport.

I recently read a short piece titled “Par Avion,” Page 128, August 2015 *Smithsonian* magazine. I’ve read it over and over, and it worries me each time.

“Par Avion” includes a photo of the Swiss flag, the Alps, and a drone (or UAS, if you prefer) apparently inbound to an isolated cabin. The opening line says that “...the Swiss plan to take airmail to a new level—using American-made drones.”

“Par Avion” cites World Cargo executive Oliver Evans who says the receptiveness of Swiss officials to drone technology makes his country an ideal testing ground. Then the author points out that “The U.S., so far, is less welcoming.” You can say that again!

Note that U.S.A. industry is making the drones to be used by the Swiss. Our industry is way ahead of our guvmint in this new opportunity. Note also that, “More than 1 billion people worldwide are isolated by poor roads.” Drones are more competitive in that environment, and folks, 1 billion people is no small market, even if Congress does make a billion dollars sound like chump change.

In our country—as I understand it and unless it has changed again—the guvmint must grant permission—certification—for each new project using drones commercially. The guvmint says this is to control safety. I wonder if the guvmint is just trying to keep its monopoly on drones. Why would it want to do that? I don’t know, and can’t think of a single answer that wouldn’t scare me badly.

Drones (UAS) make up a huge new opportunity already growing like Jack’s beanstalk. Drones should be managed by people who are willing to invest their money in a new project that they think will be profitable, not by governments who think they can make a better decision. Hell, let businesspeople do the research, take the risks, suffer the losses, and/or reap the rewards. That has worked wonders in this country.

What if Ford had been required to get permission to build the Model T, Edison, the light bulb, and the Wright brothers to fly at Kitty Hawk? Most of us can’t imagine such a silly thing. So why do we so placidly accept insane regulations on this gigantic new market? Hey, Congress can’t get its own budget approved on time, how can it manage this?

Eventually—probably sooner than later—you may have pilotless aircraft flying parallel approaches into your airport. Will your airport be ready? Or will you have to rush your readiness in order to meet all-at-once demand? Surely it would make sense to get all of that drone experience a little at a time—the way airports learned about jets—rather than wait until drone hit airports all at once.



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In Future Airport Networks, Content is King

Airport wireless network convergence and densification is necessary to support travelers' connected behaviors

When was the last time you traveled without a smartphone? Can you remember when you spent time at an airport without checking email, sending a text, posting to social media or watching a video? I bet you'll be hard pressed to name even one instance in the last five years.

What Forrester Research has called the "mobile mind shift" has fundamentally changed the way travelers engage at the airport and in-flight. This seismic "mind shift" leads us to expect immediate, fast connectivity and the ability to shape our own experiences through the insatiable consumption of instantly available content.

If software is "eating the world," as technology entrepreneur Marc Andreessen so famously said, then content is eating the airport customer experience. Airports are increasingly engaging with their consumers



through content and customized experiences, whether through apps, landing pages, digital billboards and even virtual assistants (anyone remember AVA?)

It may be hard to believe, but the content consumption culture at airports is still in its infancy. According to eMarketer, as of Q2 2015, the average U.S. adult spends an average of 1 hour, 16 minutes each day with video on digital devices. According to Cisco, in 2015 55 percent of mobile traffic was video, and they expect this to increase 13x by 2019 to 72 percent of total mobile traffic.

The rapid growth of data and content consumption among the growing majority of connected travelers demands a fresh approach to network development and deployment at airports. The airport network of the future must be a content delivery network. These content delivery networks will need to embrace a converged infrastructure to provide coverage to all devices, and offer network virtualization, allowing for resiliency and scalability in the face of hot new content trends that haven't even been dreamed up yet.

THE CONTENT CONSUMPTION TSUNAMI

In addition to travelers' insatiable appetites for curated content via apps and sharing through email, social media or messaging, we see four content trends making their way into the airport setting in the near term:

- **Mobile Multimedia and OTT:** Consumers of all ages today are embracing cord cutting and cord shaving when it comes to their favorite content. According to Nielsen, more than 40 percent of U.S. homes now have access to subscription-based video-on-demand, such as Netflix. With today's more powerful mobile devices, travelers have the ability to emulate this at-home streaming while on-the-go. Over-the-top (OTT) video and on-demand streaming is convenient, cheap and is creeping into airport terminals coast-to-coast more each week.
- **Gaming and eSports:** Mobile gaming and massive multiplayer online games have been popular—and have been taxing airport networks—for years, but a new trend called eSports will kick consumption up another notch. As of 2015, there are 134 million eSports fans around the world, and soon they'll be looking to watch via mobile

to ensure that they'll never miss a marquee match-up.

- **Digital billboards and Advertising:** Airports are embracing the power of direct engagement with travelers through interactive billboards. These digital signs can present real-time offers when travelers need them, driving needed non-aeronautical revenue. These powerful engagements require a dense and highly available network to support both consumer and operational needs, and rely heavily on data to properly target their audiences.
- **Virtual Reality:** This may sound far out, but virtual reality has arrived in homes and is being leveraged by such storied institutions as the Los Angeles Philharmonic with its new VAN Beethoven Oculus Rift mobile concert experience. Look for immersive mobile experiences to become more affordable in the near term, and therefore more prevalent in public spaces.

CONTENT DEMANDS CONVERGENCE

Content consumption is diversifying and intensifying, as are the services being supported and offered at airports today. Airports are increasingly interested in offering location-based services to their passengers, and mobile carriers are now integrating voice-over-WiFi (VoWiFi) calling into the delivery of services to consumers in high-traffic venues.

Airport will soon need to ensure that networks offer a confluence of technologies, and can support:

- **Tiered, Technology Agnostic Services:** The lines between licensed (cellular) and unlicensed (WiFi) technologies are blurring. Customers are toting both WiFi-only and cellular devices with them on their travels, and new technologies like Passpoint make it easier than ever to hand-off connections from one network to another to ensure optimal performance and content delivery.
- To support the content tsunami, airport networks will need to be carrier grade, offering low drag and high performance to allow travelers to consume content as they run through terminals to their flights, or maintain a Skype call from the skycap to the ticketing desk. They will need to leverage all of the latest technologies—including WiFi, cellular and small cells—to deliver comprehensive

coverage to every radio on a device.

We also envision networks offering tiered service experiences, allowing travelers to select the speeds and bandwidth that suit their needs. Tiered networks deliver a bespoke connectivity experience, giving travelers the exact experience that they want, and helping to fund the network and ongoing upgrades to ensure that data demands are met.

- **Think Mobile, Cache Local:** Boingo is installing network technologies today to make it easier to control and tune the network for optimal performance via the Cloud. Efficient delivery of customized content will also be enabled by localized caching.
- **Transcendent Quality Experience:** Through ongoing upgrades of intelligent WiFi networks complete with tiered offerings, airports can ensure that all passengers receive a quality experience. Delivering an outstanding experience in the future will not only mean offering a powerful network, but also choice, since mobile consumption behaviors are as unique as travelers themselves.

Content delivery networks are being implemented in some of the world's largest and most innovative airports today. With content consumption set to continue nearly unstoppable growth, airports worldwide will need to embrace a converged infrastructure with more options for connected consumers to meet the rising data tide.



ABOUT THE AUTHOR

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Marc Patterson is responsible for the overall specification, development and management of Boingo's diverse mobility portfolio, including Boingo's WiFi, small cell/Distributed Antenna System (DAS), S.M.A.R.T. networks and Boingo Broadband services, as well as the company's Web and mobile applications. Patterson brings more than 25 years of customer-focused, market-leading service development experience in wireless, mobility and security to Boingo. Patterson is the recipient of many wireless industry awards, and sits on the advisory board of Crowd Source Development. Patterson holds a Bachelor of Science degree from Drexel University and an MBA from Pepperdine University.



Policing the Parking Garage

Why parking enforcement is good customer service

The dreaded parking ticket. Everybody has gotten one, and no one enjoys the experience. But as unpleasant as getting a ticket—or getting towed—is, it's important to remember that parking enforcement is an important element of running any airport parking facility.

It can be easy to lose track of, but the real point of parking enforcement is neither to punish nor to generate revenue. Granted—it often does these things, too. But, the real

function of parking enforcement is customer service. It is about protecting parking spaces and capacity for the people who are doing the right thing: purchasing parking permits,

parking in the proper spaces, and respecting time limits. People who ignore the limits and regulations displace and inconvenience your customers—travelers, airport employees and employees of airport vendors. And that's the best-case scenario—other illegal parkers are abusing ADA parking spaces and aisles, are blocking emergency access, and are preventing service and delivery from occurring effectively. These transgressions go beyond simple inconvenience and can jeopardize health, safety and the efficiency of operations. This is a particularly important issue for airport parking facilities in the post-9/11 world.

AMBASSADORS, NOT NINJAS

When it comes to airport parking enforcement,



Effective parking enforcement takes an ambassadorial approach with ticket writers acting as field service representatives there to aid travelers.

the most effective programs take an ambassadorial approach—meaning that enforcement personnel shift from being ticket writers to being field service representatives (not just representing the parking organization, but the airport as a whole). Often, enforcement officers will be among the first airport representatives that many travelers will meet. They are also a consistent presence around parking facilities; they can be greeters and guides, helping travelers find their gates or other services. If they spot someone parking illegally (whether out of ignorance or disregard), they can educate and guide that customer to a legal space.

A good hiring and selection process is crucial to putting the right people, with the right mentality, out there. Naturally, a robust training program gives these talented and personable professionals the customer-service orientation and tools. Another key aspect, however, is having the appropriate metrics. If you do everything else right, but give the field representatives a ticket quota, you risk the success of this endeavor to refocus your efforts, redefine your mission, and revise your reputation. By no means does this imply that these ambassadors shouldn't have metrics—all of us should—but we need to rethink what those metrics are. Ask your staff to make a certain number of customer contacts during the course of their day, or make sure that they are covering enough parts of each parking facility enough times during their shift. It's more about improving compliance than about writing tickets—the citation is only one tool. If you are responsible for overseeing this staff, train them well, accompany them occasionally (it will do you a world of good to go out among your staff and your customers!), and set the expectation that they will hold themselves and each other accountable to the reimagined (and somewhat less tangible) metrics that you set. It's impossible to completely erase the stigma from a staff that writes citations. However, if they are friendly and proactive, their days are going to be more pleasant. And travelers will come to expect a positive parking experience.

BUT, THE BUDGET?

Undoubtedly, budgetary realities have to factor into this conversation. The good news is that enforcement personnel can fully support their own positions (including equipment and



career apparel) writing, on average, just three to eight tickets per hour depending upon pay rates, systems, equipment and other expenses. In reality, there is never likely to be a shortage of violators.

In a reconsidered enforcement operation, anything beyond break-even could be considered gravy. If that would be a budget buster, consider recovering lost revenue through improved citation accuracy to reduce voids, and via enhanced collection rates. Reduced staff turnover among the enforcement ranks (by virtue of making the job and people's impressions more pleasant) will also save money by reducing hiring and training costs.

DAS BOOT

As we know, sometimes violations are so frequent, chronic or flagrant that stronger action is needed and vehicles must be physically removed. Or, must they? A good, rational tow-

ing and booting program can also help enhance the customer service face of the parking organization, by judicious application of these options. Naturally, there are times when towing is the best (or only) solution, for example: a vehicle illegally occupying a reserved or ADA space; or, someone parked in a manner that threatens health and safety (hydrant, fire lane, enforced security lanes, etc.). Other times vehicle immobilization, or "booting," may be more appropriate. These boots are wheel locks, which don't allow a vehicle to be moved until the device is removed. The application of these devices can be superior to towing in many cases and for several reasons. A vehicle that is parked in an area with adequate capacity which, for example, is displaying a forged, lost, stolen or otherwise fraudulent parking credential; or, one that belongs to a chronic violator or to someone with a high dollar-amount of outstanding fines can be immobilized instead of being towed.

PARKING

There are several advantages to booting over towing (which is usually done by an outside service provider).

Obviously, the booted vehicle is still THERE. For the customer, this means no panicked phone call to the police reporting a stolen car; it also means that they don't have to chase the car down to get it out of impound. Also, the boot fee (more on this in a moment) doesn't necessarily have to be paid in cash—a typical requirement at towing companies—and the customer can simply pay their fee and all outstanding fines, and drive away.

The airport benefits by collecting a boot fee (it should be priced less than the towing fee), which generates revenue for the airport rather than for a towing contractor. Also this costs the customer less, hopefully creating fewer hard feelings. Applying a boot takes less than a minute, which is much more efficient than summoning and awaiting a tow truck. The boot can be used to compel payment in full of all outstanding fines, whereas a towing company is usually only able to and/or concerned with collecting their own fee.

Then there's the visibility of booting, which communicates that the airport is serious about enforcement. However, instead of seeming draconian, a good communication and marketing program can highlight the benefits and the fact that the airport is using booting to save cus-



Airports need to be able to respond 24/7 when enforcement solutions include wheel locks to vehicles.

tomers time, money, effort and inconvenience.

There are a couple caveats about the use of a booting program. First, you need to have the ability to respond 24/7, be prepared to collect fees and fines and, and be prepared to release a vehicle at whatever moment a customer discovers the boot and settles their account. This can be done with the assistance of airport security personnel or parking enforcement officers, an answering service, or an outside contractor (which is easiest, but cuts the potential revenue benefits). Note that this also gives you the flexibility to immediately return a vehicle

to someone who cannot pay, but has a bona fide emergency for which they need their car—something that simply isn't possible if you've had a vehicle towed.

HEROES, NOT VILLAINS

A motorist assist program can be a great public relations enhancement, and is as simple to provide as procuring a jumpstart kit with a built in compressor for dead batteries and soft tires, a 1-gallon gas can for empty tanks, and a shovel and some road salt or grit for cars stuck in the snow. In short, your parking enforcement staff don't need to be seen as villains. In fact they can be heroes of a sort,

helping travelers park closer to their gates and providing parking assistance. These efforts don't come from one-time expenditures, but rather through a process of investing in your staff, processes, and campus community. However, it will raise the profile (in a great way) of your airport parking department. It will also make all of your staff, particularly the field staff feel better about their jobs—they'll be better and more comprehensively trained, they'll have more positive (and fewer negative) experiences with customers, and they won't burn out quite so easily. For small investments, you can avoid frequent hiring processes and new employee training; you'll also be developing entry-level staff who will gain the skills to grow and develop within the department. With efforts to continuously improve, to broaden the definition of customer service, and to proactively share and communicate your initiatives, your efforts and your commitment to a quality parking experience for travelers and employees, the reputation of your department will be enhanced. And—if even a little bit more than before—travelers and staff will recognize that parking enforcement IS customer service.



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Statement of Ownership, Management, and Circulation
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1. Publication Title Airport Business	2. Publication Number 001-614	3. Filing Date September 17, 2015
4. Issue Frequency Feb/Mar, April, May, Jun/Jul, Aug/Sep, October, November, Dec/Jan	5. Number of Issues Published Annually 8	6. Annual Subscription Price Free to Qualified Subscribers
7. Complete Mailing Address of Known Office of Publication (Street, City, County, State, and Zip+4) SouthComm Business Media, LLC 1233 Janesville Ave PO Box 803 Fort Atkinson, WI 53538-0803		Contact Person Debbie Dumke Telephone (920) 563-6388
8. Complete Mailing Address of Headquarters or General Business Office of Publisher SouthComm Business Media, LLC, 1233 Janesville Ave, PO Box 803, Fort Atkinson, WI 53538-0803		
9. Full Names and Complete Mailing Addresses of Publisher, Editor, and Managing Editor		
Group Publisher (Name and Complete Mailing Address) Brett Ryden 1233 Janesville Ave, PO Box 803 Fort Atkinson, WI 53538-0803		
Editor (Name and Complete Mailing Address) Ronnie Garrett 1233 Janesville Ave, PO Box 803 Fort Atkinson, WI 53538-0803		
Managing Editor (Name and Complete Mailing Address)		

10. Owner (Do not leave blank. If the publication is owned by a corporation, give the name and address of the corporation immediately followed by the names and addresses of all stockholders owning or holding 1 percent or more of the total amount of stock. If not owned by a corporation, give the names and addresses of the individual owners. If owned by a partnership or other unincorporated firm, give its name and address as well as those of each individual owner. If the publication is published by a nonprofit organization, give its name and address.)

Full Name	Complete Mailing Address
SouthComm Business Media, LLC	1233 Janesville Avenue, Fort Atkinson WI 53538

11. Known Bondholders, Mortgagees, and Other Security Holders Owning or Holding 1 Percent or more of Total Amount of Bonds, Mortgages or Other Securities. If none, check here. ☐ None

Full Name	Complete Mailing Address
City Paper, LLC	1233 Janesville Avenue, Fort Atkinson WI 53538
Decision Media, Inc.	1233 Janesville Avenue, Fort Atkinson WI 53538
Chris Ferrell	1233 Janesville Avenue, Fort Atkinson WI 53538
North American Equity Investors, Inc.	1233 Janesville Avenue, Fort Atkinson WI 53538
Tom Schiff	1233 Janesville Avenue, Fort Atkinson WI 53538
Solidus Company, LP	1233 Janesville Avenue, Fort Atkinson WI 53538

12. Tax Status (For completion by nonprofit organizations authorized to mail at nonprofit rates). (Check One)
The purpose, function, and nonprofit status of this organization and the exempt status for federal income tax purposes: ☐ Has Not Changed During Preceding 12 Months ☐ Has Changed During Preceding 12 Months


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13. Publication Title Airport Business		14. Issue Date for Circulation Data Below Aug/Sep 2015	
15. Extent and Nature of Circulation		Average No. Copies Each Issue During Preceding 12 Months	No. Copies of Single Issue Published Nearest to Filing Date
a. Total Number of Copies (net press run)		15263	15439
b. Legitimate Paid and/or Requested Distribution (By Mail and Outside the Mail)	(1) Outside County Paid/Requested Mail Subscriptions stated on PS Form 3541. (Include direct written request from recipient, telemarketing and Internet requests from recipient, paid subscriptions including nominal rate subscriptions, employer requests, advertiser's proof copies, and exchange copies.)	10506	10862
	(2) In-County Paid/Requested Mail Subscriptions stated on PS Form 3541. (Include direct written request from recipient, telemarketing and Internet requests from recipient, paid subscriptions including nominal rate subscriptions, employer requests, advertiser's proof copies, and exchange copies.)	0	0
	(3) Sales Through Dealers & Carriers, Street Vendors, Counter Sales, and Other Paid or Requested distribution Outside USPS.	249	304
	(4) Requested Copies Distributed by Other Mail Classes Through the USPS. (e.g. first-class Mail)	0	0
c. Total Paid and/or Requested Circulation (Sum of 15b(1), (2), (3), and (4))		10755	11166
d. Nonrequested Distribution (By Mail and Outside the Mail)	(1) Outside County Nonrequested Copies stated on PS form 3541. (Include Sample copies, Requests Over 3 years old, Requests initiated by a Premium, Bulk Sales and Requests including Association Requests, Names obtained from Business Directories, Lists, and other sources.)	3837	3347
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e. Total Nonrequested Distribution (Sum of 15d (1), (2), and (3))		4215	3977
f. Total Distribution (Sum of 15c and e)		14969	15143
g. Copies Not Distributed		294	296
h. Total (Sum of 15f and g)		15263	15439
i. Percent Paid and/or Requested Circulation (15c / 15f x 100)		71.8%	73.7%
* If you are claiming electronic copies, go to line 16 on page 3. If you are not claiming electronic copies, skip to line 17 on page 3.			
16. Electronic Copy Circulation			
a. Requested Electronic and Paid Electronic Copies		5,119	5,190
b. Total Requested and Paid Print Copies (Line 15c) + Requested/Paid Electronic Copies (Line 16a)		15,873	16,356
c. Total Copy Distribution (Line 15f) + Requested/Paid Electronic Copies (Line 16a)		20,088	20,333
d. Percent Paid and/or Requested Circulation (Both Print & Electronic Copies) (16b divided by 15c x 100)		62.8%	64.1%
I certify that 50% of all my distributed copies (Electronic & Print) are legitimate requests or paid copies.			
17. Publication of Statement of Ownership for a Requester Publication is required and will be printed in the October 2015 issue of this publication.			
18. Signature and Title of Editor, Publisher, Business Manager, or Owner		Date	
Terri Peitt, Director, Audience Development		September 17, 2015	
I certify that all information furnished on this form is true and complete. I understand that anyone who furnishes false or misleading information on this form or who omits material or information requested on the form may be subject to criminal sanctions (including fines and imprisonment) and/or civil sanctions (including civil penalties).			
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FINAL ANALYSIS



JFK INTERNATIONAL AIRPORT TO GET ON-SITE HOTEL

The iconic Eero Saarinen-designed TWA Flight Center at John F. Kennedy International Airport will be transformed into a \$265 million hotel complex. According to the Cuomo administration, the hotel project has been approved by the Port Authority board for the airport in Queens. "Town & Country" reported that the new hotel "will bring back the airport's midcentury glory." The TWA Flight Center Hotel, will feature two towers with six stories each and 505 guest rooms, and various amenities that include a restaurant, spa, event space and a 10,000-square-foot observation deck. The LEED-certified facility will feature a microgrid energy-management system which will be used to generate the hotel's power. Construction is slated to begin next year and the hotel should open by 2018.

\$86 MILLION
The amount Will Rogers World Airport will spend to construct a new concourse on the east side of the existing terminal with four new gates.

50 YEARS

The age of the existing control tower at Sacramento International Airport. Once slated for replacement, the \$60 million project for a new tower has been put on hold after the FAA refused to fund it.

2030

The year that Fort Lauderdale-Hollywood International Airport risks overcapacity, if runway expansion projects aren't finished, according to an annual report from the FAA.



RICKY SMITH
Incoming CEO
BWI Thurgood
Marshall Airport

"We need to put trust in the local boards. It's ridiculous for Washington to decide what fee to charge [passengers to fund airport improvement projects]."

U.S. REP. DAVID JOLLY



JEFF HAMIEL
Announces
retirement as
Executive Director
Metropolitan Airports
Commission

**\$1.04
BILLION**

The amount the Los Angeles city controller's office actually paid for LAX's new Tom Bradley International Terminal; 67 percent more than expected.

"We don't need the feds to tell us what size our airport should be."

**JOE LOPANO, CEO, TAMPA
INTERNATIONAL AIRPORT**

**FIFTY-NINE
THOUSAND
SQUARE FEET**
THE AMOUNT OF ADDITIONAL SPACE THAT WILL BE ADDED TO GERALD R. FORD INTERNATIONAL AIRPORT'S GRAND HALL AS PART OF A \$30 MILLION EXPANSION PROJECT TO COMBINE SECURITY CHECKPOINTS AND OFFER MORE AMENITIES TO TRAVELERS.

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