

# The New Airport

BY RON STEINERT

As airlines adapt to the new realities and demands of air travel, airports will focus on reinventing themselves and their business strategies to prosper during this critical time in aviation history. The new airport will set the stage for industry transformation.



**Gensler's design for JetBlue's terminal at John F. Kennedy International Airport (JFK) in New York** responds equally to the complex realities of post-9/11 air travel, JetBlue's brand identity, and its proximity to the iconic Eero Saarinen-designed TWA terminal. The result is a trim, efficient, high-capacity terminal designed to improve the flying experience for JetBlue's passengers.

Today, the aviation industry is facing new challenges that threaten not only the airlines, but also most airports. Volatile fuel prices and a faltering economy are forcing airlines to look at new business strategies that include consolidation, bankruptcy, and reduction in seat capacities. Even as airports are being forced to look at the state of the airlines at their terminals, new entrants are surfacing, seeking new space and slots vacated by airlines that have reduced service. Once-popular regional jets are being forced to the ground as they have become uneconomical to operate.

Airports and airlines alike are considering new strategies that will enable them to survive in this new era. In this paper, we closely examine the three key components of the industry: low-cost carriers, legacy carriers, and the airports themselves. It has become clear that, as airlines adapt to the new realities and demands of air travel, airports will also focus on reinventing themselves and their business strategies creating a “new airport” that will set the stage for an agile airline industry that meets the needs of passengers, airlines, and airports alike.

## BRIEF HISTORY

Focusing on customer service, low fares, and no frills, Southwest Airlines ushered in the low-cost carrier era in 1971, turning its first profit in 1973. The advent of the low-cost carrier (LCC) and the regional jet suddenly gave smaller cities access to the entire aviation network through the “hub and spoke” business model. Airports were forced to reexamine how they operate to meet demands generated by the LCCs increased capacity and rapid turnaround, and to figure out how to accommodate smaller aircraft in terminals designed for larger airplanes. This era created



**Security Check-In for Post-9/11 Travel:** Streamlined passenger screening, along with appropriately sized queuing space at Gensler's JetBlue terminal at JFK, provide convenient and centrally located facilities that minimize the perceived hassle to the passenger.

smaller holdrooms and new passenger-loading bridges that could reach the lower sill heights of the smaller jets.

Bigger changes followed after 9/11, when airports had no choice but to conform to dramatic new security regulations and screening protocols. The capacity issues that were causing great concern prior to 9/11 were no longer the focus of capital improvements; new passenger screening protocols required significantly more space, moving investments from landside to airside. New baggage screening equipment and in-line systems had to be accommodated in existing ticketing halls or other places that were being used for revenue-generating activities such as concessions.

Once security improvements were in place, the old capacity issues came back. Passengers learned to minimize the security screening process hassle by arriving earlier at the airport, but, as a result, found themselves on airside for a much longer time. Airports responded with larger holdrooms, larger restrooms, and, most importantly, greater number and variety of concessions. As passenger traffic reached and exceeded pre-9/11 levels, airports began to look at terminal improvements that would holistically accommodate security issues and airside amenities.

### THE LOW-COST CARRIER

In the 35 years since Southwest turned its first profit, the LCCs have emerged as major players not only in the US, but around the world. In particular, India, China, Indonesia, and Malaysia have witnessed a steady stream of new entrants into this lucrative market. Low-cost carriers operate with a similar, if not identical, business model: low fares, good customer service that builds customer loyalty, common aircraft, and quick turnaround logistics that keep aircraft in the air, not on the ground.

Many airports lack the facilities to accommodate this operational approach and the increased demand that an LCC entrant creates. In almost every case, when an LCC comes to an airport, air traffic increases and passenger demand for specific types of services and amenities rises. To attract and retain this lucrative service, airports have had to invent ways to support and enhance the LCC business model.

On the landside, the LCC business model relies heavily on passengers obtaining their tickets and boarding passes somewhere other than the airport ticket hall—mostly online. The result is a reconstruction of the ticket counter area to provide more places for bag drops and electronic check-in. This



**Within JetBlue's concourse,** natural light and vibrant colors cue passengers toward their gates. Once there, they discover efficient, compact holdrooms meant for swift transitions to flight.



**At every juncture,** the JetBlue terminal is designed to guide passengers in a simple, intuitive way, reducing the dependence on signage and other visual clutter.



**The new terminal, which will be JFK's busiest,** is designed to accommodate a colossal 20 million passengers a year and 10 flights per gate every day, more than 30 percent of airport traffic. The efficient design is simple for passengers to navigate.

minimizes the amount of space an airline must rent and reduces the number of staff required for traditional ticketing methods.

Once past security, LCC passengers will find smaller holdrooms in response to the reduced wait time enabled by quick aircraft turnaround. A smaller holdroom means less rent to the carrier and relies on passengers to linger in concessions, where they will spend more money and, eventually, help reduce charges to the airline.

On the airside, airports have had to reconfigure their aprons and taxi lanes to accommodate a single type of aircraft—usually the B737 or A319/320. Wider wingtip clearances facilitate quick turnaround by allowing the aircraft to come in “hot,” without wing walkers, and with more tolerance on the centerline. With more apron space, pushbacks are easier, because additional space minimizes interference with adjacent aircraft. The impact of this single requirement might affect the airport’s total gate capacity by requiring more terminal frontage without elimination of some adjacent, non-LCC apron positions. Existing passenger-loading bridges may require relocation. Where ground loading once was acceptable, new bridges will have to be procured.

Terminal operators must respond to the high demand and high capacity issues that the LCC business strategy requires. LCCs (especially Southwest) often have a very specific boarding protocol designed to minimize the time required to load the aircraft. If areas within the holdrooms are unable to accommodate this protocol, then the space must be modified.

Most existing terminals cannot be adapted immediately to accept these operational protocols, so major modifications, expansions, or other improvements must be made to attract and support the LCC. Such modifications may include the addition of boarding “lanes,” separate doors for arriving and departing passengers, and modified aircraft parking positions.

Airports that have terminals for the LCC—or are willing to develop such terminals—will prosper from this business model’s by-products: frequent low-cost service, high customer satisfaction, and access to more destinations for the communities they serve.

### THE LEGACY CARRIERS

Riding out the bankruptcies and restructurings of 2005-2007, airlines were just beginning to show some profitability—until volatile fuel prices and a drop in demand for air travel took their toll. Unable to adopt the LCC model, airlines began to look at potential mergers and consolidations to position themselves for the future.



All passenger-loading bridges at Detroit Metropolitan Wayne County’s new North Terminal feature identical gangways designed without proprietary airline signage or identification.



Gensler’s design for the new JetBlue terminal at JFK incorporates passenger-friendly elements such as free Wi-Fi throughout, customer service zones in every concourse, and a visual paging system for a quieter terminal that is less reliant on constant audio paging.

The legacy carriers began to shift aircraft and personnel to their more profitable domestic routes and the international sector. (Historically, international routes have proven more profitable because of higher fares and larger load factors. These are realized due to an increased percentage of business travelers, who more often pay higher, last-minute fares.) The result of this realignment is reduced domestic capacity for the legacy carriers, dropped routes being picked up by the LCCs, and greatly diminished service to marginal and second- and third-tier communities.

Once heralded as the salvation of small communities by providing access to larger hubs, 50- to 70-person regional jets have become largely unprofitable. Relative to their larger counterparts, regional jets require similar effort and expense to load, unload, and operate, but bring in significantly less revenue. In many cases they are being grounded or their service is being greatly curtailed. Where potential profits are anticipated, airlines are reducing the frequency and increasing the size of aircraft to increase passenger loads. For unprofitable routes, service has been altogether eliminated. The impact on airports and smaller communities is potentially catastrophic, as they are faced with greatly reduced service or none at all. Further evidence that legacy carriers are willing to risk domestic operations by reducing their own costs: new charges for checked bags, reduced food service, increased availability of food for purchase, charges for phone or in-terminal ticketing, and elimination of in-seat entertainment units.

Conversely, the larger legacy carriers frequently announce the opening of new international routes made possible by “open skies” agreements, which reduce government interference in airlines’ commercial decisions and allow carriers unlimited access to points in the signatory companies. These airlines are asking airports to update, enlarge, or otherwise enhance their terminal facilities to allow them to increase international service. Additional international/domestic swing gates are needed to minimize capital investments and increase capacity. With the potential of new aircraft, namely the B787 and A380, new point-to-point routes may become available in the near future. These new routes will, in turn, provide international service to communities that previously could not have supported more than a spoke connection to an airline’s international hub.

In addition to reducing domestic service and increasing international service, the legacy carrier’s new business model is expanding to include new programs and incentives that cater to the high-price, ticketed passenger, especially the international business traveler. These new programs include both “on-the-ground” and “in-the-air” components.



**The new Gensler-designed oneworld® Lounge** for Qantas, Cathay Pacific, and British Airways at Los Angeles International Airport (LAX) presents amenities that appeal to the business traveler: Internet service, food and beverage service, showers, and a VIP lounge.



**The oneworld® Lounge** is designed to attract and retain the passenger who is willing to pay tens of thousands of dollars for a ticket.



**An oasis for business and first-class passengers within LAX's Tom Bradley International Terminal**, oneworld® Lounge's opening dovetailed with Qantas' introduction of a fleet of Airbus 380s. The lounge will offer amenities including a VIP room, computer banks, showers, and a full-service bar.

On the ground, legacy carriers are offering conveniences such as limousine pick-up and drop-off between passengers' homes or offices and the airport. For passengers who purchase full-fare business or first-class tickets, Delta provides free helicopter service from JFK to downtown Manhattan. Inside the terminal, dedicated check-in counters and security screening lanes offer expedited service for business and first-class passengers. Meanwhile, airline lounges are being constructed or remodeled to present a more upscale experience .

In the air, legacy carriers are adding features for those who pay the highest ticket prices. Airlines are adding lay-flat seating in first class and almost lay-flat seats in business class. Upgraded food and beverage service gives the passenger more choice in what they eat and drink, and also when they do it. On-demand entertainment systems with larger LCD displays also present greater choice for the passenger.

Similar to the LCCs, the legacy carriers' new business model has huge, but very different, implications for the airports they serve. Airport terminal operators are faced with decreased demand for domestic gates. In cases where airlines have long-term leases on specific gates, airports are seeing unused gates that cannot be made available to other carriers, often forcing them to turn away requests to add or expand terminals to gain new gates.

Where the legacy carriers have acquired new international routes, or wish to add them, airports are seeking new ways to convert unused domestic gates to international swing gates and to develop new or expanded customs and border protection facilities. Funding of these new capital improvements remains a critical problem. In cases where the airlines find it in their business strategy to increase international service, airports may be more willing to provide some level of funding. Airlines may even consider returning unused leased gates to the airport in exchange for international considerations. But when this situation does not exist, airports are left to develop new international facilities on their own, without the typical financial partnership of legacy carriers.

#### **WHOSE AIRPORT IS IT ANYWAY?**

Airports—buffeted by airline bankruptcies, potential mergers and consolidation, and the loss of regional jets and reduced domestic capacities—are facing unprecedented uncertainty. Reflecting on the demise of Eastern Airlines, Braniff, National, Pan Am, and TWA, circumstances that left terminals empty for prolonged periods of time as assets were resolved, airport authorities have begun questioning: “Whose airport it is anyway?”

Airlines have always seen their passengers as their customers and facilities as a means to serve those customers. Airlines held



**In its first year of operation,** Detroit Wayne County Metropolitan Airport's (DTW) new North Terminal will see between eight and 14 million passengers.



**To help passengers navigate the terminal intuitively and quickly,** the baggage claim features plentiful electronic displays and vibrant color and light at transition points.



**The \$431-million, 26-gate terminal establishes new benchmarks for value-conscious airport facilities.** The terminal is designed to meet the dynamic needs of today's travelers.

long-term residual, exclusive-use gate lease agreements with airports. Signatory airlines demanded Majority in Interest (MII) clauses that gave them control of how an airport managed its capital improvement programs, making it very difficult for airports to add new gates or other amenities that would allow for new entrants or major expansions of current tenants. Only improvements that would increase the amount of non-aviation revenue, and therefore potentially reduce the amounts the airlines would pay the airport, were approved and constructed. As a result, airport infrastructure went into decline, except where dominant airlines cooperated for their own benefit.

Now, the model is flipped. Airports are beginning to understand that the passengers are really theirs; the airlines only provide air service. As airlines continue to eliminate passenger services such as food and other niceties, airports are looking to step into the gap. With passenger and bag screening now performed by the Transportation Security Administration (TSA) and boarding passes issued someplace other than the ticket lobby, passengers in the near future may encounter the airline for the first time at the door of the aircraft. Airport administrators realize they have a new opportunity and are focusing their business approach on controlling all aspects of the terminal to provide the highest degree of customer service to both passengers and airlines.

Some airports began to convert exclusive-use agreements to preferential-use strategies, giving dominant carriers the gates of their choice most of the time, but not exclusively. (Where LCCs operate, this type of gate usage is almost automatic due to the high frequency of flights.) This change in strategy gave airports additional control over how they managed their assets and, in most cases, removed the MII clause from these agreements. Leases were shortened, sometimes to as little as 30 days, which also increased airport control.

### **THE COMMON-USE BUSINESS MODEL**

With airports now striving to control every aspect of their facility, and to charge their tenants (including airlines) for what they use and when and how they use it, common-use airports and their compensatory agreements are beginning to transform the industry. When airports are unsure which airline, if any, will provide service at their airport, the common-use strategy removes some of the uncertainty, allowing the airport to own its gates, loading bridges, ticketing hall, and baggage claim facility and assign their usage to a carrier when they are needed. The net result: the airport has better use of its facility, can attract new entrants, and is better equipped to manage growth and expansion conservatively. Airlines benefit by only paying for what

they use for as long as they use it. The risk: unlike a residual agreement that requires the airlines to pay potential revenue shortfalls to cover debt and operational expenses, in this scenario the airport is responsible for any potential revenue shortfall.

A fully common-use terminal strategy allows for a greatly reduced ticketing hall and a reduced number of aircraft gates and baggage claim facilities. In turn, this requires less square footage in the terminal, resulting in lower construction costs. Paying less money for a terminal that is more flexible, offers greater utilization of its assets, and offers a potential for greater passenger satisfaction and comfort is an attractive outcome of converting to a common-use business model. By reducing airline-specific areas within the terminal, airports can increase concession space to allow for more diversity and a greater selection of goods and services, increasing revenue potential.

Key to the success of the common-use business model is successful deployment of technology. In lieu of corporate graphics permanently posted at ticket counters and gates, identifying signs will be electronic, with airline logos and colors changing with the airline assignment throughout the day. When an airport embraces the common-use model, kiosks cease to be airline-specific. Customers can check in at any kiosk and receive their boarding pass for any airline. Currently, passengers have to take their bags to an airline counter to get tagged and placed into the baggage screening protocols. But, in the very near future, the customer will not only check in at a kiosk, but also will receive their bag tags there and place their bag on a non-airline specific bag drop. The system will deliver luggage to the specific airline bag make-up area within the terminal.

The next step is to locate these kiosks in places other than the terminal ticket hall. Being able to check in for any airline and tag and drop luggage at a hotel, office, convention center, parking garage, or other unconventional location will drastically alter the design of terminals. Once celebrated as the great travel event, ticket halls recall the grand train stations of the past, offering soaring ceilings and high-end materials. With the advent of the common-use business model, the ticket hall becomes merely a place to drop one's bag or pass through on the way to passenger screening. As such, it will become greatly diminished in size.

Also, under the common-use business model, funding of capital improvements will become less dependent on airline commitments and exclusive-use agreements. Airports will begin to rely more heavily on Passenger Facility Charges (PFCs), especially if Congress enacts a new authorization bill to increase



**The North Concourse of the Norman Y. Mineta San Jose International Airport (SJC)** is the first installment of a larger comprehensive master plan designed to meet the needs of 21st century air travel in San Jose and the Silicon Valley. Located about three miles north of downtown San Jose, the airport is in the heart of Silicon Valley, the economic engine of the San Francisco Bay Area.



**Holdrooms at SJC's North Concourse are contiguous and without physical separation** to allow passenger seating to migrate beyond a previously designated area.

the PFC to \$7 from \$4. The net result is that the financing of airport capital improvements and conversion to a common-use business model will shift from airlines to passengers. With the added flexibility afforded the airport, attracting new entrants or encouraging existing airlines to expand destinations will also potentially increase the number of passengers using the terminal, increasing that financial base.

Under the common-use business model, cost-effective, highly flexible airports will replace the less nimble, airline-centric model of the past. Airlines will benefit from paying only for what they need, when they need it. Airports will take back control of their facilities, gain the ability to manage their assets more efficiently, and provide a higher level of passenger service.

### THE NEW AIRPORT

Low-cost carriers, legacy carriers, and increasingly independent airports are focused on strategies that enable them to survive and prosper. But only the airport has the responsibility to satisfy all parties simultaneously. Wishing to maintain and expand LCC operations with their lower fares—while also maintaining and expanding the legacy carriers with their “hub-and-spoke” system and international potential—airports have developed business strategies that cater to both types of carriers, while maintaining a high level of service for their communities.

The common-use strategy gives airports the ability to create environments that will fulfill each type of carrier’s needs in an equal and financially appropriate manner. However, as airports adapt to the common-use business model, the key unresolved issue remains the funding to cover required infrastructure enhancements and physical modifications. The need for an inflation-indexed PFC will have to be mandatory if this is going to be achieved. Assuming that Congress will enact the new Federal Aviation Administration’s Airport Improvement Program (AIP) appropriations bill during 2009, airports then will have to understand and act on what the new airport will look like.

By understanding the business models of LCCs and legacy carriers, and how terminal design and airport operation can enhance the success of each, the airport will reinvent itself through a major paradigm shift. Some of the important changes on the horizon:

**1. Airports will look and operate differently as they transform into passenger-focused service centers.** They will be smaller and more flexible to accommodate a wider range of airline and aircraft types. As smaller terminals become the norm, they will be more cost efficient to operate.



A vibrant blue Panelite wall in conjunction with directional lighting guide JetBlue’s passengers intuitively to the baggage claim.



At DTW’s new North Terminal, bold blue and striking light fixtures draw attention to transitions, as they do here at the juncture between the concourse and baggage claim area.

**2. The new terminal will provide even more variety and more opportunities for food and beverage outlets and retail development.** As the airport’s business model is refocused on delivering a high level of passenger service to meet the desires of the local community and to serve as a catalyst for business development, the new terminal must be more passenger-friendly and comfortable.

**3. Conventional airside development of apron and aircraft gates will take a new form.** Each aircraft position will accommodate the complete range of anticipated aircraft, from a regional jet to a jumbo aircraft. Multiple passenger-loading bridges will allow the flight line to add parking positions without terminal modifications. Wider wing-tip clearances will allow airlines to operate without costly “wing walkers” and



Gensler's conceptual design for an expansion to Little Rock National Airport (LIT) flips the conventional organization of arrival and departure, elevating baggage claim to the topmost, light-infused level of the terminal.

provide for a faster turnaround in response to LCC operational requirements.

**4. In common-use facilities, holdrooms will be contiguous and without physical separation to allow passenger seating to migrate beyond a previously designated area.** This will allow gate capacity to respond directly to passenger demand, rather than an airline-specified square footage governed by a specific aircraft type. Common-use operations will allow for electronic display of gate identification, airline colors and logos, flight numbers and destinations, and other passenger information through changeable message signage.

**5. Streamlined passenger screening along with appropriately sized queuing space will provide convenient and centrally located facilities that minimize the perceived hassle to the passenger.** In-line baggage screening will take checked bags from the landside bag drops directly to TSA screening and then the airline make-up area, greatly reducing wait time for the passengers in the ticket hall.

**6. Once through screening, passengers will be greeted by spacious concessions and directed through clear, short, and easily negotiated concourses to their assigned gates.** Where legacy carriers have upscale lounges for high-end passengers,

comfortable facilities and appropriate amenities will remain. In some cases, the airport will provide these lounges to their high-end traveler or to local businesses.

**7. The new ticket hall will transition to the lower levels of the terminal, where lower ceiling heights and large expanses of glass are not required.** After passengers have dropped their bags and moved through screening, they will move up to the departure level and airside gates.

**8. As the departure sequence diminishes in importance as the great event of air travel, the arrival sequence will emerge in its place.** The baggage claim area will be elevated in importance and relocated to the upper levels of the terminal. This area will have the best views to the exterior, more expansive ceiling heights, and more comfortable materials and spaces. It will set the stage for the great celebratory experience of the new terminal, where abundant natural light fills a grand space and signifies a sense of arrival.

The three major business models will create a new airport terminal paradigm for the future. This new terminal will serve the LCCs, the legacy carriers, and the community—allowing each to prosper and recreate the grand experience of travel.



## Ron Steinert, AIA

Principal

Ron Steinert is a Principal at Gensler and a leader of our global Aviation + Transportation practice. With 35 years experience in planning and designing airports, Ron's point of view on terminal design celebrates passenger experience. A globally recognized leader in terminal planning, Ron has taught airport facilities planning and design at Harvard's Graduate School of Design and has been called upon by the FAA and Volpe Center to participate in a consortium of airport planning professionals tasked with updating the basic structure and logic of the airport planning process. Currently, Ron serves on the Airports Council International World Business Partners Board of Directors. After spending seven years on the Airports Consultants Council Board of Directors, he was elected President in 1996. Since September 11, 2001, Ron has contributed to articles on airport security in the *Los Angeles Times*, *Time*, *Wall Street Journal* and *USA Today*, and he has authored numerous articles on terminal design for international journals and industry conferences.