



TWA's 'Terminal of Tomorrow' An Architectural Showpiece

By Ian Duncan



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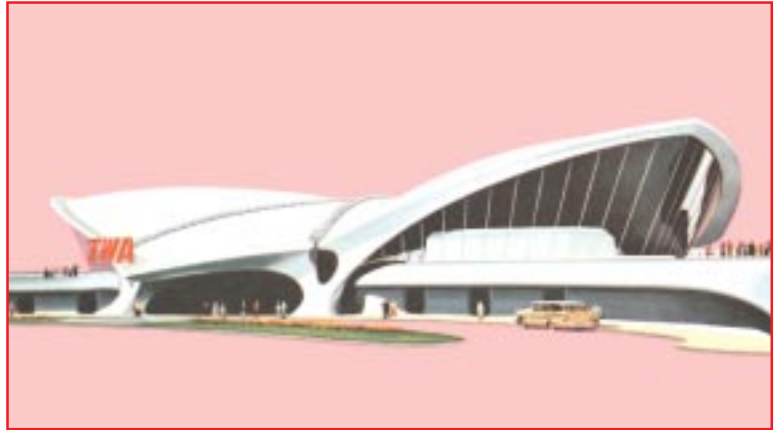
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arrived at New York's John F. Kennedy International Airport in the summer of 1989 as a newly hired 727 flight engineer For TWA. For many years I had dreamed of coming to this airfield, buzzing with enormous aircraft from exotic locations. L-1011 TriStars, DC-10s and 747s bound for destinations around the planet; in my mind, this was the place to be. What better company to work for at this marvelous airport than TWA, an airline which dispatched dozens of flights each night from this very place? To walk out on the tarmac and gaze upon all the widebodies bound for places I had only imagined was heady stuff for a new flight engineer. Now, I would not only imagine but also participate in these journeys. And all these journeys began in a remarkable building.

Although I had never been to JFK before, I knew a little about it. At least about one building there. My mother was raised in New York, and her father had been in the construction business. During my own childhood I occasionally heard about some of the more the interesting projects in which Grandfather had participated. The wooden building blocks I played with as a child, for example, had been "recycled" following construction of the Belmont Racetrack by my grandfather's company. I also recalled Mother mentioning the fact that her father had helped build the TWA Flight Center at JFK, designed by Eero Saarinen.

A Finnish architect known for his sculpture-like building designs, Saarinen created other notable structures, including the St. Louis Arch and terminal building at Washington-Dulles Airport. He described



This artist's rendering appeared in a 1958 TWA brochure. Sadly, the rooftop observation decks never came to fruition. (Jon Proctor Collection)



The old Idlewild control tower is visible in this picture of the cantilevered, concrete shell of what would become the TWA Flight Center. (Edgerton Aikman)



Also photographed during construction, the interior ceiling reveals skylights between the four roof sections. This view faces the street entrance to the terminal. (Alistair & Beverly Duncan)



An upper level view faces the area to be occupied by TWA's Ambassador Club. (Alistair & Beverly Duncan)



Flight Wing Two was actually the first to be completed, along with the original terminal construction. The ceramic-trimmed, cylindrical fixtures on the floor are ashtrays. (Alistair & Beverly Duncan)



The some of the gates in Flight Wing Two originally offered parallel parking, permitting separate Jetways for first-class and coach passengers. Note the seat chart behind one of the gate agents. Seat tabs were pulled from the chart and stapled onto each customer's ticket jacket. (TWA)



The unique flight display "pod" and information desk dominates the ticket lobby, adorned daily with fresh-cut flowers. The Solari arrival and departure board was updated by remote control from TWA's operations office. The information system was installed at other TWA cities, including Los Angeles and Chicago. (TWA)



Facing airside, the upper walkway is naturally illuminated by a skylight in this photo taken shortly before construction was completed. The brushed-aluminum railings were designed to present a graceful pattern throughout the building. (Alistair & Beverly Duncan)

the challenges of designing a terminal for TWA as being twofold. First, he wished to create a building for TWA that would be distinctive and memorable. He also wanted the architecture itself to express "the drama, specialness and excitement of travel; a place of movement and transition." Saarinen met these two challenges well, and in doing so created what must be considered his finest work.

Seeing the TWA Flight Center at JFK for the first time, I understood why my grandfather's association with this building's construction was referred to with a note of pride. It was unlike any building I had ever seen. Mother had said the building suggested a bird in flight, and this image was readily apparent to me as I stepped off the crew bus. I saw in the roofline two great wings spreading out. It was as if a huge concrete bird was about to land and was checking its descent with its outstretched wings. Two curving legs reached forward to grasp a perch, while a cement head and beak arched over the roadway in front. A broad tail fanned out toward the ramp in the rear, steering the structure towards its nest on the airport.

Today, I find it hard to believe the building's architect did not specifically design the terminal this way. During a 1959 interview about the terminal project, Saarinen said, "The fact that to some people it looked like a bird in flight is really coincidental." It is such a striking and graceful image that it does not to me seem accidental."



Photographed from the then-new control tower building, the TWA Flight Center is seen in full operation during its early days. Flight Wing One would be added to the left and beyond the main structure, opening in time for the inauguration of 747 service in March 1970. (TWA)

He went on to say, “The shapes of these vaults were deliberately chosen in order to emphasize an upward-soaring quality of line, rather than the downward gravitational one common to many domed structures. We wanted an uplift. All the curvatures, all the spaces and elements, down to the shape of the signs and counters, would have to have one consistent character.” Indeed, when entering the terminal one is challenged to find a straight line anywhere in the structure. All lines curve, join together and push upward, drawing the viewer’s eyes around the interior in an aerial ballet.

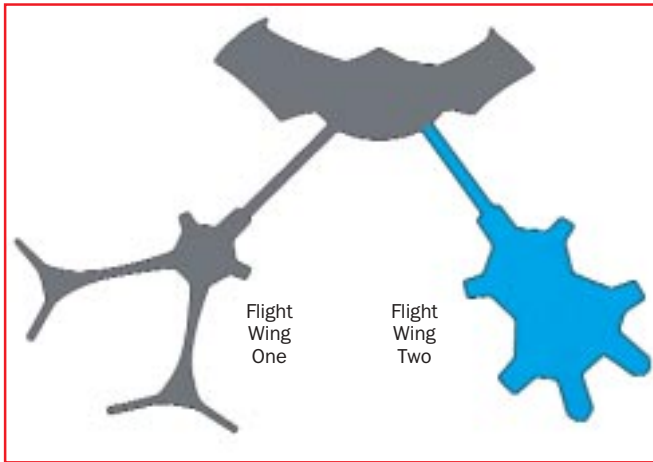
Ticket counters peel off in great arcs to the left and right of the entrance. A marvelous flight display fountains upward in the center of the lobby, gracefully encircled by an information desk. To the rear, under the “tail,” an oval depression forms a nest where travelers may pause and rest, or contemplate the view of the ramp and the aircraft on which they are to embark. Two upper-level terraces grace the sides beneath the wings; one contains the TWA Ambassador’s Club while the Lisbon Lounge and Paris Café occupy the other. A walkway spans the space between the two locations, gently soaring over the center of the terminal in a gentle arch. A clock dangles like an ornament from the center point of the ceiling where the four roof sections converge.



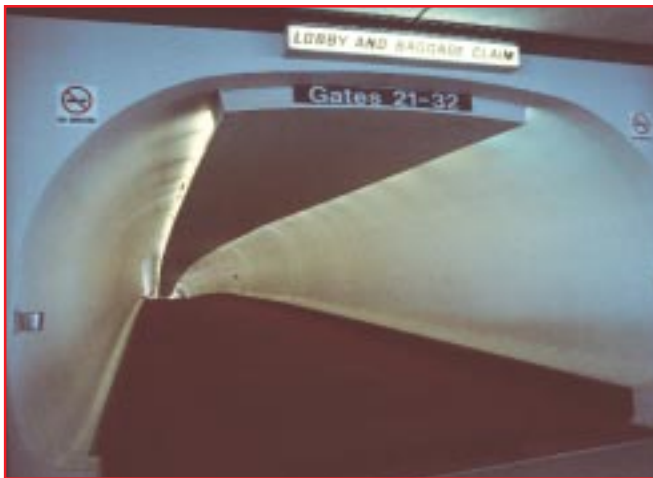
The Paris Café occupied the second level above TWA’s original ticket counter area. The Lisbon Lounge is to the left, just out of this picture. (Ian Duncan)



The sunken “nest” in the tail area of the building offered passengers an increasingly rare opportunity to rest between flights while enjoying a panoramic view of the ramp area. (Ian Duncan)



The 747 gates in Flight Wing One were first equipped with three Jetways each, thought to be necessary to efficiently board and deplane more than 300 passengers. The airline's own Customs and Immigrations facility was a strong selling point. (TWA)



Tunnels leading to the flight wings were part of the futuristic design that made the TWA Flight Center unique. (Ian Duncan)

I began sharing my impressions of the TWA Flight Center with my parents after experiencing it firsthand. My father, now retired from a career as a civil engineer, recalled Grandfather's description of frustrated engineers who were reduced to bending paper clips over a model to determine the shape of the reinforcing bars to be placed within the relatively thin concrete shell. He spoke of the difficulty in building a form to cast the great concrete shape in place as a single unit. Mother unearthed old boxes of slides my Grandfather had taken, showing the building during its construction. It was in these slides that secrets of the terminal became apparent to me.

My father's engineering background gave him a special appreciation for this structure. Two of Grandfather's pictures showed the building as a concrete shell. Dad pointed out the cantilevered wing, not yet draped with a canopy of glass

below. "Did you realize the windows that make up the sides of the terminal provide no support?" he asked. I had to admit my ignorance, never having imagined such an enormous, thin shell like that, jutting out into space, could support itself. Mom drew my attention to the gap between roof sections in another image, starting at one of the four legs and terminating at the center of the roof. The roof is not one piece, but four, she explained. Each section is balanced on two legs, with one end touching the remaining sections at the roof's center, while the opposite end projects out into space. Saarinen said his design "consists essentially of four interconnecting barrel vaults of slightly different shapes, supported on four Y-shaped columns. Together, these vaults make a vast concrete shell, 50 feet high and 315 feet long, which makes a huge umbrella over the passenger areas. The bands of skylights that separate and articulate the four vaults increase the sense of airiness and lightness."

Now the architectural importance of the building was becoming clear to me. To fashion such a concrete structure 40 years ago, balancing each enormous barrel-shaped vault of concrete on just two legs was a remarkable feat. Building the forms to pour the concrete must have been an accomplishment in itself. One pilot I flew with early in my career, who after having seen the terminal prior its completion, remarked that the building lot "looked like a saw mill" with all the lumber stacked up, waiting to be built into the forms for the concrete. To this day, by looking carefully at the surface of the terminal, one can see the imprints left by the individual pieces of lumber used to build the form into which concrete was poured. For many years, I have heard TWA employees telling each other that the TWA Flight Center is on the Register of Historic Places, providing the recognition this remarkable building certainly deserves. However, most of them seem unaware of what makes the structure so important. I'm afraid I've bent the ear of more than one crew member as we walk down the steps inside the terminal, explaining some of the features that make it so remarkable.



Display cases on the upper level of the ticketing structure displayed vintage TWA uniforms and memorabilia. A Ford Tri-Motor propeller replica and marker commemorated the airline's early transcontinental plane/train service (*Up, Up and Away!*, July/August 2001). (Ian Duncan)

On October 6, 2001, TWA flight 481 became the last flight to operate from the building, leaving its future up in the air; how appropriate! American Airlines had purchased TWA several months earlier. Because American had already embarked on a multibillion-dollar reconstruction project on its own facility, it announced the termination of operations from the TWA Flight Center. The Port Authority, arbiter of the building's fate, faces challenges with Saarinen's building. Modern terminals today segregate traffic with separate levels for arrivals and departures, while the TWA Flight Center has only one level through which all passengers must funnel. Though the building served widebody aircraft, its small waiting areas around the gates were frequently overcrowded. I can also speak from personal experience and state that the building's air-conditioning is not nearly up to the task during a blazing summer afternoon.

To date, no plans have been finalized for the TWA Flight Center, although proposals seem to recognize its importance and attempt to minimize the impact of any future construction. United Airlines is a likely tenant, and has worked with the Port Authority to create a design that includes the TWA Flight Center. A "C-shaped" terminal would be built behind the existing structure, with airside concourses radiating outward. The new

building would connect to the original terminal through the tubes that presently connect the flight wing gate areas to the main building. A roadway would pass behind the existing terminal and under the tubes, providing separate departure and arrival levels. The new terminal would maintain as low a profile as practical so as not to dominate the much smaller TWA terminal. Airside accretions that are not part of the original design, such as the baggage handling area, would be removed. The TWA Flight Center itself would be preserved for new use, perhaps serving the airport as a conference center, restaurant or even museum.

There is an increasingly vocal group of opponents to plans for altering the TWA Flight Center. Some believe that to fully appreciate the building it must be employed as designed; an airline terminal. An airline terminal, they claim, cannot possibly function in another mode, and therefore must be preserved as it was originally intended. Indeed, the grand window that makes up the back wall of the terminal was designed to bring the view of flight in for all to behold, not to gaze on yet another structure. Concern has also been expressed about the two flight wings, the pods at the end of the two tubes out the back of the terminal from which the passengers actually board aircraft. While plans incorporate the connecting tubes, the flight wings

themselves would have to be demolished to accommodate proposed new structures. Since the flight wings are part of Saarinen's design, some feel they should be afforded the same consideration given the main terminal itself.

Eero Saarinen last visited the site shortly before his death in 1961, when only the concrete vaults had been completed. He remarked, "TWA is beginning to look marvelous. If anything happened and they had to stop work right now and just leave it in this state, I think it would make a beautiful ruin, like the Baths of Caracalla."

While I don't think anyone would wish to see the terminal in ruins, this comment provides an interesting view into the designer's perception of his own work and just how much was physically required to capture the magic contained within his plans. Although I am saddened by the fact that I will no longer work in this marvelous structure that my grandfather helped build, I am pleased by the efforts currently underway to preserve this most important building. I hope the TWA Flight Center will still be around when I am a grandfather, as I would be proud to pass on to another generation not only an appreciation for this building's remarkable features, but my family's small role in its construction and use. ✍️

Ian Duncan

