Route to recovery

Airport execs reveal optimism for the year ahead, but call for standardization in Covid-19 policies to instill passenger confidence in air travel
The new state-of-the-art terminal at Louis Armstrong New Orleans International Airport (MSY) opened in November 2019, making it the first major replacement airport terminal to open in the USA in the past 10 years. Its signature design and fast-paced schedule required ingenuity from its design and construction team.

The terminal features 35 gates in three concourses, with modern amenities designed to enhance the passenger experience, update security and operations, and provide world-class concessions that highlight the flavor of New Orleans’ distinct culture. The terminal’s unique crescent shape, as well as a late stage addition to the building program, presented a series of intricate design, engineering and construction challenges.

**MSY background**

This innovative US$1bn terminal got its start in 2011 – eight years before it would officially open – thanks in part to a push from then mayor of New Orleans Mitchell J Landrieu.

Mayor Landrieu pressed the New Orleans Aviation Board to commission an analysis for a new international terminal to replace the existing terminal complex, originally constructed in phases beginning in 1959. Two years later, airport officials made the decision to move forward with a long-term strategic development plan to build the new terminal on the north side of the airfield, where it could work with the existing runways. Construction commenced on the new terminal in 2016.

The terminal’s design concept, envisioned by Pelli Clarke Pelli, was developed and completed by the Crescent City Aviation Team, a joint venture between Leo A Daly and Atkins North America. From an overhead view, the headhouse of the terminal appears as an inverted ‘T’ with curved sides, resulting in a crescent-shaped structure with constantly curving and flowing walls – a nod to both New Orleans’ nickname, The Crescent City, and the area’s landscape carved out by the Mississippi River.

The west side of the terminal ties in to an elevated departures roadway that serves the ticketing hall at the upper level, and the east side of the terminal handles the arrivals roadway that ties in to the baggage claim at the lower level.

Highlights of the passenger journey include a large three-story central atrium that welcomes arriving and departing passengers into a soothing environment bathed in natural light, live music and artwork. Operational improvements such as a single consolidated passenger security checkpoint provides wide open, column-free space for up to 17 security lanes, and an interstitial, in-line baggage system enables passengers to drop off checked baggage at the ticket counters. Lastly, an extensive F&B and concessions program features more than 40 unique restaurants and shops that embrace the rich spirit and culture of New Orleans.

**CRESCENT CITY CREATION**

Digitally integrated structure and enclosure design from Walter P Moore brings soul to the new terminal at Louis Armstrong New Orleans International Airport.
Our use of parametric modeling tools allowed us seamless interoperability of geometry and building information between various digital models used for documentation (drawings), analysis, coordination and construction.

Integrated design solutions

Due to the company’s extensive experience with complex terminal projects and its collaborative approach, Walter P Moore was selected as the lead structural and enclosure engineer for the project. The firm’s integrated design approach played a critical role on the MSY project from initial conception to final completion.

Walter P Moore embraced the use of connected digital workflows for the design of the new terminal project, which added value for the airport by reducing the timeframe and cost of an iterative project, which added value for the airport by reducing the timeframe and cost of an iterative process. As a result, Walter P Moore’s team was able to rapidly redesign the primary structure and enclosure systems in several days as opposed to several weeks, helping to keep the project on track and on budget.

To meet this challenge, the Walter P Moore team leveraged a digital platform combining Revit, Dynamo and Grasshopper design software to manipulate the integrated structural and enclosure model simultaneously. As a result, Walter P Moore’s team was able to rapidly redesign the primary structure and enclosure systems in several days as opposed to several weeks, helping to keep the project on track and on budget.

Since opening in November 2019, the new terminal has received acclaim from the aviation community and passengers alike, and now serves 16 commercial airlines. The project is a major economic driver and focal point for New Orleans, as well as one of the airport industry’s most transformative terminals in the past decade.

Author

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ASCENDING INNOVATION
INTEGRATED ENGINEERING. TRUSTED DELIVERY.

Walter P Moore is driven by the challenge to engineer innovative, high-performance structural and enclosure design solutions for complex aviation projects utilizing industry-leading, integrated digital approach, team collaboration, and trust-based project delivery.

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