

CASE STUDY / **AIRSIDE AND LANDSIDE AIRPORT PAVEMENT MANAGEMENT SYSTEM (APMS) UPDATE**

MANAGING A CRITICAL RESOURCE

Passenger airlines and cargo carriers count on the condition of airport pavement to support the safety and reliability of their ongoing operations. Before charting a path for pavement repair and replacement, Los Angeles World Airports (LAWA) completed an assessment on its airside and landside pavements.



SUSTAINING SMOOTH OPERATIONS DURING PAVEMENT INSPECTIONS

Data technologies and unique approaches enable airports to assess large-scale areas of pavement without disrupting flight operations or passengers.

PROJECT STATS

CLIENT

Los Angeles
World Airports

LOCATION

Southern California

COMPLETION DATE

August 2018

CHALLENGE

LAWA, the City of Los Angeles' airport department, manages the Los Angeles International Airport (LAX), the second-busiest airport in the U.S., and the Van Nuys Airport (VNY), one of the busiest general aviation airports in the country. Together, these airports have millions of square feet of pavement for runways, taxiways, aprons, parking lots and streets.

Pavement is one of the most critical components of airport infrastructure, supporting massive jets — some carrying more than 500 passengers, filled with more than 84,000 gallons of fuel, weighing more than 1.2 million pounds — with clear, smooth runways for takeoff and landing.

Every five years, LAWA conducts comprehensive airside and landside pavement inspections, following Federal Aviation Administration (FAA) guidelines, at its airports to address deficiencies, prevent problems and assess busy runways and active roads. LAWA turned to our team to collect and analyze distress data for nearly 100 million square feet of pavement and update a pavement management program to guide future work, all with minimal impact to airport operations.

SOLUTION

With more than 87 million passengers passing through LAX in 2018, our team needed to minimize interruptions to operations and preserve passenger convenience as we conducted the vast pavement inspections.

Our team completed most of these inspections at night, when there was a lull in travel. Through coordination with airport operations crews, we mobilized inspection teams to work through the night for three months continuously.

By relying on our relationships with subconsultants, we employed innovative technologies to improve the safety and efficiencies while collecting and analyzing the data. Distress mapping technologies — a technique that uses a GPS-based data collection tool to gather comprehensive details from the field — brought a unique advantage to the project, allowing us to tackle the sheer amount of landside and airside pavement to be inspected.

The landside inspection of bustling roads and packed parking lots required an automated data collection technology to move forward with the project without impeding traffic.

INSPECTED
100M+
SQUARE FEET
OF PAVEMENT

.....
18.54%
DISADVANTAGED BUSINESS
ENTERPRISES PARTICIPATION

.....
3
MONTHS OF
NIGHT WORK



With extensive experience in collaborating with clients to design and maintain aviation facilities, our team was familiar with airfield operations, safe airfield behavior and airport operations communication protocols. This experience expedited the process for our team to gain airside access and airfield driving privileges, which improved the effectiveness of the project.

Clear and constant communication was paramount to success as our team coordinated with airport operations teams, the LAWA maintenance department and development groups, the airport development group (ADG) commercial real estate organizations, nine subconsultants and airport planning and development groups. Before any crew was sent out to

inspect the pavement, we hosted a preparatory meeting to update all project stakeholders. Our dedicated project manager was also available 24/7 to help address challenges.

To support the pavement management program longer-term, our team trained LAWA airport staff on how to collect and analyze the data in the program so LAWA staff could conduct inspections on small portions of pavement as needed. We worked with senior managers to provide them a half-day training session to demonstrate the latest pavement systems, innovations and distress data technologies, and held hands-on training with LAWA staff on how to utilize the computer programs, collect and analyze field data and create strategies to manage the pavement.

RESULTS

After the airside and landside pavement inspections of more than 100 million square feet were complete — with minimal disruptions to operations and within the allotted time frame — our team provided LAWA with a detailed pavement management report. By drawing on decades of experience and unique technologies, the team produced a resource that will help chart viable pathways for pavement repair and replacement.

With easy-to-implement solutions in hand, LAWA airport staff can now begin making pavement improvements. The completion of this program management report also qualified LAWA for continued funding from the FAA to support large-scale airside construction projects.

