



Runway Capacity Analysis for Master Plan Juan Santamaria International Airport



SJO Airfield Simulation Model

Client Name: Landrum & Brown

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Aeris Holding Costa Rica (Aeris), the operator of Juan Santamaria International Airport (SJO) in San Jose, Costa Rica, is updating the airport master plan to ensure development of the airport can accommodate the traffic through 2025. To support the master plan, TransSolutions was contracted to analyze the airport capacity of the existing airfield and proposed development alternatives.

TransSolutions built a simulation model of the aircraft movement on the airfield and the surrounding airspace in *Simmod PLUS!* Simulation results were compared to actual operational statistics from 2010 to calibrate the model. Traffic demand representing the forecast 2025 traffic was simulated to evaluate delays and runway capacity for SJO's typical operating scenarios:

- All operations on Runway 07
- All operations on Runway 25
- Contra-flow operations, with arrivals on 07 and departures on 25

Two taxiway development alternatives were also simulated to determine if either or both would provide the capacity to accommodate the 2025 demand. In addition, one air traffic procedural change was evaluated to quantify the delay benefits of implementing an approach procedure currently being developed.

The simulation results and recommendations were incorporated into the airport master plan for long-term development of SJO to meet the forecast demand.