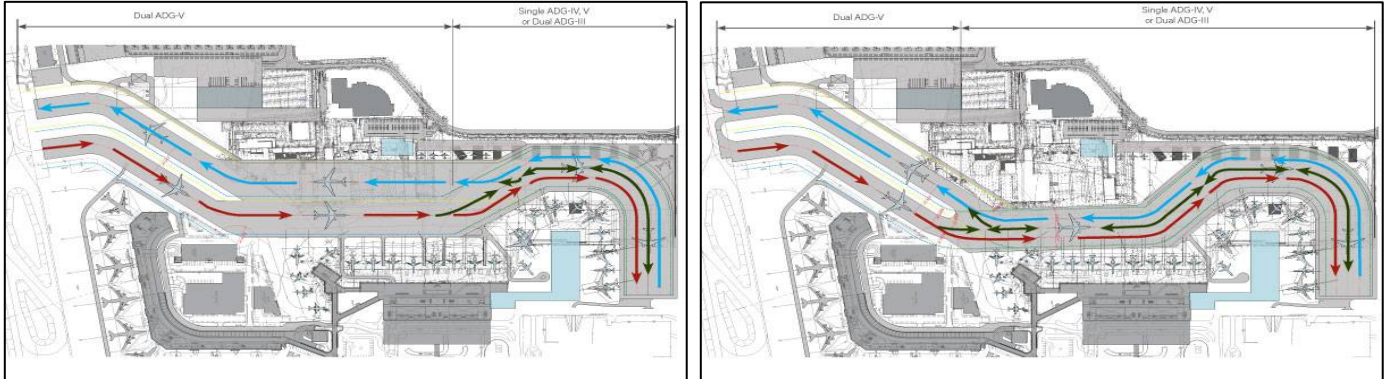




## Honolulu International Airport Terminal Modernization Program – Taxilane Analysis



**Client Name:** HOK/ Honolulu International Airport

**Date Started:** March 2009

**Date Completed:** August 2009

As part of the Honolulu International Airport Terminal Modernization Program, TransSolutions was retained by HOK to quantify the impact of various configurations of Taxilanes G and L once the proposed expansion of the Inter-Island Terminal (IIT) and Mauka Concourse Extension are completed. This analysis identified potential taxi conflicts and ramp congestion that would be encountered with the terminal expansion.

TransSolutions developed a simulation model of the HNL airfield using *SIMMOD Plus!*<sup>®</sup>, with the taxiways and taxilanes adjacent to the IIT and new Mauka Concourse being the focus of the study. In order to get an accurate assessment of the arrival and departure pattern of aircraft, the runways and the Overseas Terminals were modeled at higher levels. The following scenarios were analyzed:

- **Baseline Flow** – Bi-directional flow of wide-body aircraft on taxilanes adjacent to IIT
- **Alternative Flow** – One-way flow of wide-body aircraft on taxilanes adjacent to IIT and adjacent commuter terminal

TransSolutions collected input data on the airfield to use in the model. Data primarily included aircraft pushback times, taxi times, and tug hook and unhook times. Throughout the project, TransSolutions worked closely with the airfield planners, Hawaiian Airlines, architects, and airport staff to ensure that all modeling assumptions and future flight schedule, and expected taxiway and taxilane restrictions and operations were incorporated into the analyses.

Statistics were reported on delays and congestion as departing aircraft taxied from their gate to the runway and arriving aircraft taxied from the runway to their gate. The analysis indicated that there was little difference between the two taxilane configurations. However, as demand grows and more wide-body aircraft are added to Hawaiian Airlines' fleet, both the baseline and alternative designs could reach a point where they result in unacceptable delays due to the one-way, wide-body taxilane each design includes adjacent to the new Mauka Concourse.