Honolulu International Airport Pavement Management System

In 1999, Applied Pavement Technology, Inc. (APTech) was retained by the Hawaii Department of Transportation (through a contract with Fujita and Associates, Inc.) to implement an airport pavement management system (APMS) for Honolulu International Airport. This project included a records review, network definition, mapping, coring, traffic data collection, pavement condition index inspections, structural testing using a heavy-weight falling weight deflectometer, establishment of a pavement management database, data analysis, and the development of a 5-year maintenance and rehabilitation program for Honolulu International Airport. Extensive training in the use of the pavement management software was also conducted.

Due to the department's satisfaction with the initial implementation, APTech was contracted in 2005 to update the portion of the State APMS related to Honolulu International and Kahului Airports. The project included records research, field inspections, a MicroPAVER database update, maintenance and rehabilitation planning, and other activities necessary to update the system for the runways, taxiways, and aprons at each facility.

This project presented some interesting challenges. Both Honolulu International and Kahului Airports are very busy facilities, necessitating the collection of pavement condition data during the night using artificial lighting. In addition, the subgrade support conditions and weather conditions are very unique to these airports and the development of pavement performance models and predictions of future pavement condition had to take these conditions into account.