

Phoenix-Mesa Gateway Airport Pavement Management System Update and Structural Evaluation



In 2007, Applied Pavement Technology, Inc. conducted an update of the airport pavement management system (APMS) for Phoenix-Mesa (formerly Williams) Gateway Airport (IWA), an airport that plays an extremely important role in the transportation system of Arizona. APTech served as a consultant on both the original APMS development as part of the State's pavement preservation program in 2003 and a subsequent update to the program completed in 2006.

While fulfilling the requirements of Public Law 103-305 and providing the information at the network-level needed by the State of Arizona, the previous APMS study did not provide the level of detailed information needed by an airport like IWA to make cost-effective decisions regarding its pavement infrastructure. The pavement infrastructure at IWA represents a very large capital investment that must be preserved through the proactive management to safely accommodate traffic.

Coffman Associates, Inc. retained APTech to provide the airport with the pavement information and analytical tools to help them identify their needs, optimize the selection of projects and treatments over a multi-year period, and evaluate the long-term impacts of their project priorities. The APMS update included a detailed construction and traffic records review, an expansion of the previous visual condition assessment using the pavement condition index procedure, nondestructive testing using a heavy-weight model falling weight deflectometer, structural analysis, determination of airport-specific cost and management policies, and the development of a 10-year Capital Improvement Program. APTech lead the effort in all aspects of the project, and work was completed in only one year.

The results of APTech's analyses provided IWA with a greater understanding of their current pavement needs in addition to an understanding of the rehabilitation needs that the anticipated growth in airport traffic will require. IWA can now optimize the selection of projects and treatments over a multi-year period and evaluate the long-term impacts of decisions made regarding the airport pavement infrastructure.