

Detroit Metropolitan Wayne County Airport Pavement Management Implementation, Update, and Runway Rehabilitation



With 17 passenger airlines serving over 36 million passengers a year, Detroit Metropolitan Wayne County Airport (DTW) is the 12th busiest airport in the United States. The preservation of the pavement infrastructure at DTW is of critical importance for the safety of aircraft and the efficient movement of air traffic throughout the region and the country. In 2003, Applied Pavement Technology, Inc. (APTech) teamed with Kimley Horn & Associates (KHA) to implement an airport pavement management system (APMS) for the Wayne County Airport Authority to proactively manage the pavement assets at DTW. During this project, APTech provided design services for the rehabilitation of Runway 3R-21L. The APMS and rehabilitation work were undertaken concurrently to minimize the inconvenience to DTW.

This effort involved nearly 60 percent of the airfield pavement, including the majority of the runways and taxiways. APTech worked to implement a MicroPAVER pavement management system and to develop a 10-year capital improvement program and maintenance plan to preserve and extend the life of the airport's existing pavements. In conjunction with this effort, APTech performed a detailed project-level investigation to develop plans and specifications for the rehabilitation of Runway 3R-21L. APTech led the evaluation of the pavement condition for both activities.

Due to the Authority's satisfaction with the APMS implementation, APTech teamed with KHA again to update the APMS in 2008. This project included performing pavement condition index (PCI) surveys on the reconstructed Runway 3R-21L, the new Runway 4L-22R complex, the McNamara Terminal Apron, the L.C. Smith Terminal Apron, and several de-icing pads. Following this project, all airfield pavements were incorporated into the APMS. In addition to conducting pavement inspections and determining the PCI of the pavements included in this phase, APTech developed pavement performance prediction models for the pavements inspected in 2005. The all-encompassing APMS is used to cost-effectively plan future maintenance and rehabilitation needs at DTW. As part of this project, APTech provided training on the use of the MicroPAVER pavement management system.