

## Detroit Metropolitan Wayne County Airport Pavement Management Update



With seventeen passenger airlines serving over 36 million passengers a year, Detroit Metropolitan Wayne County Airport is the twelfth busiest airport in the United States. As such, the preservation of the pavement infrastructure at Detroit Metro Airport is of critical importance for the safety of aircraft and the efficient movement of air traffic throughout the region and the country. In 2008 and 2010, APTech served as the prime consultant to update the airport pavement management system (APMS), which allows the Wayne County Airport Authority (WCAA) to proactively manage their pavement assets. This work built on a 2004 project where APTech led the inspections as a subconsultant.

The 2008 project included performing pavement condition index (PCI) surveys on the new Runway 4L-22R complex, the McNamara Terminal Apron, the L.C. Smith Terminal Apron, and several de-icing pads. Runway 3R-21L and portions of the adjacent connecting taxiways were reconstructed in 2006 and 2007 and were also updated in the database. Following this effort, WCAA had a complete database incorporating all airfield pavement sections. In addition to conducting pavement inspections and determining the PCI of the pavements, APTech developed pavement performance prediction models to predict the condition of the pavements through 2013. The all-encompassing APMS was used to cost-effectively plan future maintenance and rehabilitation needs at the Airport.

In early 2009, WCAA had an urgent need to assess the condition of Runways 4R-22L and 3L-21R to evaluate the immediate need for major rehabilitation. APTech inspected these pavements in March 2009 and incorporated the results in the MicroPAVER pavement management database and report.

Due to WCAA's satisfaction, APTech was reselected in 2010 to update the pavement management system. This project includes the conduct of PCI inspections on Runway 9R-27L and the majority of the taxiway system at Detroit Metro Airport. Recent and ongoing construction projects on Runways 9L-27R, Runway 3L-21R, and Taxiway Z are also being incorporated into the database. In addition, the entire airfield pavement at Willow Run Airport is being inspected and incorporated into a separate MicroPAVER database. For both airports, APTech will once again be determining PCIs for each pavement sections and developing performance models to predict the pavement condition over the next 5 years.