

Detroit Metro Wayne County Airport

DETROIT, MICHIGAN, USA



New High-Speed Multi-function Snow Removal Equipment Cost Benefit Analysis

Critical Path, Inc., working with Landrum and Brown, completed a cost benefit analysis for the acquisition of high-speed multi-function snow removal equipment for the Detroit Metropolitan Wayne County Airport. The cost benefit analysis evaluated the differences in aircraft operational delay times when the new equipment was used in lieu of, or in addition to, the airport's existing conventional snow removal equipment.

The purpose of this analysis was to examine the costs and benefits of acquiring additional high-speed multi-function snow removal equipment for the Detroit Metropolitan Wayne County Airport (DTW). The analysis involved an on-site review of the equipment and airfield procedures employed by the airport in its snow removal program. The consulting team developed two performance scenarios against which to evaluate the cost of equipment versus aircraft delay savings. Delay statistics were generated using a queuing model that evaluated a typical winter schedule at DTW and computed aircraft delays based on changes in airfield capacity when runways are closed due to plowing or poor braking surface conditions.

The result of the study showed the airport how it could improve snow removal performance while paying for the enhancements with airline delay savings.

The work was conducted between December 2004 and March 2005.

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