

# FAA News



Federal Aviation Administration

William J. Hughes Technical Center, Atlantic City International Airport, NJ 08405

---

## **FOR IMMEDIATE RELEASE**

Date: August 4, 2005

Contact: Holly Baker

Phone: 609-485-6253

### **FAA Develops New Air Traffic Control Tower Siting Technology Agency Sees Enhanced Safety and Cost Savings**

EGG HARBOR TWP., N.J. – The Federal Aviation Administration’s (FAA) innovative research in selecting and designing sites and specifications for air traffic control towers has resulted in dramatic benefits in enhanced safety and in money saved to the agency.

Every year, the FAA builds an average of seven new air traffic control towers around the country. Each new tower costs millions of dollars to construct at an average price of \$40,000 per foot of height. To ensure that new towers enhance airport and air traffic safety while still being cost effective, FAA human factors and tower simulation specialists researched ways to improve tower siting (height and location) procedures.

For an investment of about \$150,000 in research funds, the FAA is saving an estimated \$5 million in airport tower construction costs per year. The savings come because the research identifies the optimum height for the tower cab, and reduces any unnecessary overbuilding.

FAA human factors specialists from headquarters, Great Lakes Region system analysts and tower simulation specialists at the William J. Hughes Technical Center near Atlantic City, along with specialists from the Army Research Laboratory in Adelphi, Md., developed a methodology to measure the improvement in controller visibility that can be gained by modifying planned tower height at different locations on the airport surface.

The Technical Center’s Airport Facilities Tower Integration Laboratory features a unique tower simulation system that can create a 360-degree airport view for any city to evaluate potential tower sites; and determine if clear and unobstructed views of the airport surfaces and approach paths are visible from the various tower control positions. Specialists also have used the system to create realistic simulations of airport traffic control tower environments to address other siting concerns.

“This achievement in air traffic control siting technology has tremendous immediate and long term implications for both the domestic and international aviation communities,”

said Charlie Keegan, Vice President for Operations Planning Services of the FAA's Air Traffic Organization. "It will enable tower planners to find and resolve potential problems before tower construction begins. The technology will enhance safety and efficiency, and will save the FAA millions of dollars in tower construction costs in years to come."

Previously, the tower siting process did not include human factors criteria. In the recent research, the FAA used air traffic controller visual perspective information, visual performance capability information from the Department of Defense, as well as limits imposed by terminal instrument procedures to determine appropriate airport traffic control tower heights.

As a result of the tests, researchers created a tool that uses two metrics specifying minimum performance criteria for future tower location and height. In the past, the FAA often built towers at heights exceeding those required for visual discrimination, because, in part, no minimum performance requirements existed. Since these requirements are known now, the agency will achieve cost savings as towers can be built at lower heights. In the past five years, technical center specialists have conducted tower siting simulation studies for more than 50 airports, in the tower integration laboratory.

###