

Highlights of [GAO-07-483](#), a report to Congressional Requesters

## Why GAO Did This Study

Airbus S.A.S. (Airbus), a European aircraft manufacturer, is introducing a new aircraft designated as the A380, which is expected to enter service in late 2007. The A380 will be the largest passenger aircraft in the world, with a wingspan of about 262 feet, a tail fin reaching 80 feet high, and a maximum takeoff weight of 1.2 million pounds. The A380 has a double deck and could seat up to 853 passengers.

GAO was asked to examine the impact of the A380 on U.S. airports. In May 2006, GAO issued a report that estimated the costs of infrastructure changes at U.S. airports to accommodate the A380. This report discusses (1) the safety issues associated with introducing the A380 at U.S. airports, (2) the potential impact of A380 operations on the capacity of U.S. airports, and (3) how selected foreign airports are preparing to accommodate the A380. To address these issues, GAO reviewed studies on operational and safety issues related to the A380 and conducted site visits to the 18 U.S. airports and 11 Asian, Canadian, and European airports preparing to receive the A380.

GAO provided the Federal Aviation Administration (FAA) and Airbus a copy of the draft report for review. Both generally agreed with the report's findings. FAA and Airbus also provided technical clarifications, which were incorporated as appropriate.

[www.gao.gov/cgi-bin/getrpt?GAO-07-483](http://www.gao.gov/cgi-bin/getrpt?GAO-07-483).

To view the full product, including the scope and methodology, click on the link above. For more information, contact Gerald L. Dillingham at (202) 512-2834 or [dillinghamg@gao.gov](mailto:dillinghamg@gao.gov).

## COMMERCIAL AVIATION

# Potential Safety and Capacity Issues Associated with the Introduction of the New A380 Aircraft

## What GAO Found

The A380 will be the first of a new category of large passenger aircraft introduced into the national airspace system in the coming years. The size of the A380 poses some potential safety challenges for U.S. airports. As a result, airports expecting A380 service may need to modify their infrastructure or impose operating restrictions, such as restrictions on runway use, on the A380 and other aircraft to ensure an acceptable level of safety. In addition, increased separation between the A380 and other aircraft during landing and departure is also required because research data indicate that the air turbulence created by the A380's wake is stronger than the largest aircraft in use today. The A380 also poses challenges for fire and rescue officials due to its larger size, upper deck, fuel capacity, and the number of passengers. FAA, Airbus, airports, and other organizations have taken several steps to mitigate these safety challenges. For example, the A380 is equipped with some safety enhancements, such as materials designed to reduce flammability and an external camera taxiing system to enhance pilot vision on the ground.

The impact of A380 operations on capacity is uncertain. The A380 was designed, in part, to help alleviate capacity constraints faced by many large airports in the United States and around the world by accommodating more passengers and freight on each flight than any aircraft currently in use. However, potential operating restrictions and the increased separation requirements imposed to ensure the safety of the A380 and other aircraft at airports and during flight could reduce the number of flights that airports can accommodate. The extent to which possible operating restrictions, increased separation, and gate utilization impact capacity would depend on the time of day, the number of A380 operations, and the volume of overall airport traffic.

Selected foreign airports that GAO visited have taken different approaches than U.S. airports in preparing for the introduction of the A380. These differences reflect the expected level of A380 traffic at the airports—and in some cases, the anticipated economic benefits of the A380 flights. The different approaches include adopting alternative airport design standards, making significant investment in existing infrastructure, and designing airports that allow for new large aircraft. By implementing these approaches, officials from the foreign airports that GAO visited do not anticipate that the introduction of the A380 will result in delays or disruptions at their airports, despite higher levels of expected A380 traffic compared to most U.S. airports.

### Inaugural Airbus A380 Visit to Singapore Changi Airport



Source: Courtesy of Civil Aviation Authority of Singapore.