

*Safer Skies with TCAS: Traffic Alert and
Collision Avoidance System—A Special
Report*

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SAFER SKIES WITH TCAS

Traffic Alert and Collision Avoidance System

Special Report



CONGRESS OF THE UNITED STATES OFFICE OF TECHNOLOGY ASSESSMENT

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FOREWORD

Because midair collisions between aircraft are nearly always catastrophic, the aviation community has been working for many years to develop technologies to help prevent such tragedies. Over the past 8 years, these efforts have culminated in a cooperative government-industry program to develop, evaluate, and implement a traffic alert and collision avoidance system (TCAS II) for commercial aviation.

Eager to reap the benefits of this important safety technology, the 100th Congress passed legislation requiring that most commercial passenger aircraft be equipped with TCAS II by December 1991, or they would not be permitted to fly in U.S. airspace. However, during the second half of 1988, questions arose about the safety implications of the certification and implementation schedule for TCAS II. The Subcommittee on Aviation of the Senate Committee on Commerce, Science, and Transportation asked OTA to assess these implications and report in early 1989. The study was endorsed by the House Committee on Science, Space, and Technology, and the Subcommittee on Investigations and Oversight of the House Committee on Public Works and Transportation.

This special report contains the results of OTA's assessment. It also provides an admirable example of cooperative effort on the part of all segments of the aviation community in providing information to OTA and working to develop a common solution for a number of difficult issues.

Throughout the study, the Federal Aviation Administration, the airlines, equipment manufacturers, pilots, maintenance specialists, and airframe manufacturers played key roles in assisting OTA through interviews, site visits, and written comments. The workshop participants and numerous reviewers and contributors provided a broad and invaluable range of perspectives. OTA thanks all of them for their substantial commitment of time and energy. Their participation does not necessarily represent endorsement of the contents of the report, for which OTA bears sole responsibility.



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