

GAO

July 1987

AVIATION SECURITY

FAA Needs Preboard Passenger Screening Performance Standards



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process of setting standards will require time as well as consultation with the airlines and other interested parties.

As you know, 31 U.S.C. 720 requires the head of a federal agency to submit a written statement on actions taken on our recommendations to the Senate Committee on Government Affairs and the House Committee on Government Operations not later than 60 days after the date of our report and to the House and Senate Committees on Appropriations with the agency's first request for appropriations made more than 60 days after the date of the report. Additionally, our final report concerning FAA's management of the overall domestic aviation security program may include other recommendations.

We will be happy to meet with you or your staff to answer any questions or discuss these matters in more detail. Please contact me at 275-3567 or Kenneth Mead, Associate Director, at 366-1743 if you wish to meet.

Major contributors to this report are listed in appendix II.

Sincerely yours,



J. Dexter Peach
Assistant Comptroller General



United States
General Accounting Office
Washington, D.C. 20548

Resources, Community, and
Economic Development Division

B-226652

July 24, 1987

The Honorable Elizabeth H. Dole
Secretary of Transportation

Dear Madam Secretary:

This letter and a testimony statement included as appendix I provide the results of our work to date on the Federal Aviation Administration's (FAA) testing of preboard passenger screening and contain our conclusions and recommendations. The statement was presented June 18, 1987, during a hearing before the Subcommittee on Government Activities and Transportation, House Committee on Government Operations. In addition, on April 30, 1987, we issued a report¹ summarizing the results of FAA tests of preboard passenger screening that was done as part of a more comprehensive assignment currently underway. That assignment, also undertaken at the Subcommittee's request, is to evaluate overall domestic airport security.

While the preboard passenger screening process, which is required by law, has provided a deterrent to crimes against civil aviation, we found shortfalls in the screening program and, on the basis of FAA test results, wide variations in the frequency with which weapons are detected. Our conclusions are based on work at 6 major airports, an analysis of about 2,400 recent FAA screening tests, discussions with FAA program officials, and a review of FAA documentation. We found that detection rates varied widely, ranging from a high of 99 percent to a low of 34 percent at the 28 major airports whose tests results we analyzed.

In our testimony, we stated our conclusion that FAA needs to establish performance standards for passenger screening. The purpose of this letter is to officially transmit to you a recommendation that FAA establish a minimum standard that the airlines must meet for the detection of FAA test weapons and use the standard as one of several management tools in its oversight of passenger screening. We note that the Department's Safety Review Task Force recently made a similar recommendation.

FAA also has indicated that standards are needed, but to develop them will require cooperation with the airline industry. We recognize that the

¹Aviation Security: FAA Preboard Passenger Screening Test Results (GAO/RCED-87-125FS, Apr. 30, 1987).

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Abbreviations

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|-----|---------------------------------|
| FAA | Federal Aviation Administration |
| GAO | General Accounting Office |

GAO Statement of FAA's Preboard Passenger Screening Process

United States General Accounting Office

GAO

Testimony

For Release
on Delivery
Expected at
9:30 a.m. DST
Thursday
June 18, 1987

FAA's Preboard Passenger
Screening Process

Statement of
Kenneth M. Mead, Associate Director
Resources, Community, and Economic Development Division

Before the
Subcommittee on Government Activities and Transportation
Committee on Government Operations
House of Representatives



GAO/T-RCED-87-34

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frequency with which weapons are detected. FAA is working to improve preboard passenger screening, but the program continues to experience many of the personnel-related problems--high turnover, low wages, inadequate training--identified in a 1979 FAA/industry study.

FAA also has not been satisfied with the overall results of the tests it has performed, but there are no standards setting goals or stipulating the levels of performance for passenger screening. To help strengthen the program, we believe FAA should establish performance standards to define for air carriers what is expected. Additionally, standards would provide FAA with a management tool for monitoring and enforcing the passenger screening aspects of the Civil Aviation Security Program.

Preboard Passenger Screening
and How It Works

The current process for screening aircraft passengers and their carry-on baggage began in January 1973 following the issuance of an emergency regulation by FAA. FAA established the process to curb the growing number of aircraft hijackings that were occurring in the early 1970's and to insure safety. In 1974, the process was made statutory.

FAA prescribes screening regulations, provides overall guidance and direction for the program, and reports semi-annually to Congress on the effectiveness of screening procedures. The air carriers are responsible for screening passengers and their carry-

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Screening Process**

Madam Chairwoman and Members of the Subcommittee:

We appreciate the opportunity to testify on the preboard passenger screening process--a critical component of the Federal Aviation Administration's (FAA) Civil Aviation Security Program. The purpose of passenger screening at U.S. airports is to prevent firearms, explosives, and other dangerous weapons from being carried on board an airplane and presenting a danger to the traveling public.

Our testimony today covers the preliminary results of our work on FAA's testing of preboard passenger screening. This work was done as part of a more comprehensive assignment currently underway, also at the Subcommittee's request, to evaluate domestic airport security. Our observations are based on work at six major airports, an analysis of about 2400 of FAA's recent passenger screening tests, discussions with FAA program officials, and a review of FAA documentation. We did not validate FAA's test data.

FAA considers the passenger screening process effective in deterring criminal acts against civil aviation. According to FAA data, since 1973, over 38,000 firearms have been detected and at least 117 potential hijackings and related crimes may have been averted by FAA required security measures. Overall, we believe this aviation security program plays a significant deterrent role and promotes the safety of the traveling public. However, we believe the passenger screening process can be made more effective. We found that there are shortfalls in the passenger screening program and, based on FAA test results, wide variations in the

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warning letters to fines, when air carriers' screening stations fail to detect test weapons.

The results of about 700 tests of x-ray screening operations conducted during 1978 showed a detection rate of approximately 87 percent. The fact that 13 percent of the test weapons passed through the x-ray system were not detected was considered "significant and alarming" by both FAA and the airline industry. In 1981 and 1982, tests of both x-ray and metal detector screening operations showed an overall weapon detection rate of 89 and 83 percent, respectively.

In tests conducted by FAA from September through December 1986, screening personnel detected approximately 79 percent of the test weapons for x-ray tests, 82 percent for metal detector tests, and 81 percent for physical search tests. Detection rates varied significantly among FAA regions, ranging from a low of 63 percent to a high of 99 percent. For major airports, the detection rate ranged from a low of 34 percent to a high of 99 percent.

Moreover, our analysis shows that FAA test results may overstate the screening process' success in detecting weapons for at least two reasons: First, FAA test procedures are designed to favor detection of test weapons. For example, FAA inspectors are allowed to place only two or three objects such as a sweater, book, and shirt with a test weapon in the carry-on bag to be tested in an x-ray device. The tester cannot hide the test object among other objects in the carry-on bag or place other metal objects in the bag, as a saboteur might.

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on baggage; however, private security firms under contract to air carriers typically do the screening. Both the air carriers and FAA monitor a security firm's performance.

Screening personnel rely on equipment consisting primarily of walk-through metal detectors and x-ray inspection systems to screen carry-on items. Hand-held metal detection devices are used as backup support for the walk-through detectors. In addition, screening personnel may require physical searches for items in carry-on baggage that appear suspicious when x-rayed. Each of the components of the process--X-ray, metal detector, and physical search--are periodically tested by the airline and FAA. While there have been some technological improvements to screening equipment, for the most part the process operates essentially the same today as it did when implemented in 1973.

FAA Test Results:
Absence of Performance Standard

FAA has periodically tested preboard passenger screening and has not been satisfied with test results. However, the Air Carrier Standard Security Program, which establishes preboard passenger screening requirements and is approved by FAA, does not establish a performance standard for measuring the effectiveness of the process. FAA officials told us that they are considering incorporating such a standard in the Security Program. Without a standard, FAA cannot take enforcement actions, which range from

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one screening firm's training session, we were advised that instructors did not attend the training and that trainees simply viewed the 5-part FAA "Safety through Screening" series by themselves. They then signed a statement to attest that they had attended. As a result, no one was available to answer questions as recommended by the Human Factors study group. In another case, we observed that trainees were tested on the training they received but were not graded. Thus, there was no measurement of the trainees' comprehension of the subject matter.

In addition, FAA's 1986 physical search test results show that screeners could not identify test weapons in 47 of 249 cases. During our work, we observed one case where the FAA test weapon--a mock pipe bomb--was initially identified as suspect by the x-ray operator. However, when the required physical search was made by another screener, the screener did not recognize the pipe bomb as a weapon and replaced it in the carry-on baggage. The screener then cleared the tester to proceed to the aircraft boarding gate.

Research and Development Efforts

As a final note, technological advances also may offer in the next several years the potential for enhancing the passenger screening process. During the past two fiscal years, FAA has increased spending for research and development to put new technology "on the shelf," thereby making improved security systems available for air carriers to purchase. FAA funding on research and development for security equipment increased from between

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Second, screening personnel may be aware they are being tested. This is because FAA inspectors in some locations are well known to screening station personnel. FAA is aware of this problem and has acknowledged that high detection rates in certain locations may indicate the screeners recognized the FAA inspector.

Personnel-related factors

Following the 1978 tests of the screening process, a task group of FAA and airline security personnel studied ways to improve performance at passenger screening checkpoints. This task group's report, referred to as the "Human Factors Study," recommended several actions which were endorsed by both FAA and the airlines. For the most part, these recommendations focused on the personnel-related aspects of the process such as high employee turnover rates, low pay, and inadequate training. Although FAA and the industry endorsed the study's recommendations, the air carriers have not yet fully implemented them.

We visited six major airports and found that many of the problems addressed in the human factors study still exist. For example, security firm managers said that screening employees are still being paid at or near minimum wage and that low pay contributes to high turnover--in some cases, about 100 percent annually--and problems in hiring capable people.

We found that training was generally provided as required by the Air Carrier Standard Security Program. However, we noted that problems continue to exist in the training area. For example, at

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\$1 million and \$2 million prior to 1985 to between \$11 and \$12 million per year during the past two fiscal years.

FAA expects to test a vapor system for detecting plastic explosives on passengers or in carry-on luggage in the summer of 1988. If successful, this system could be available for use in late 1989 or early 1990. FAA officials said this new technology will supplement the current screening process.

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In summary, we concur with FAA that preboard passenger screening is a critical component of FAA's overall security program. With a view toward making the program more effective, we believe FAA needs to establish standards for detection of test weapons and to use those standards as one of several management tools in its oversight of passenger screening. This action also would provide FAA with a basis for taking enforcement or other appropriate measures when airlines do not meet the standard. We defer to the expertise of FAA on what the performance standards should be and recognize that the process of setting standards will require time as well as consultation with the airline industry. Our final report concerning FAA's management of the overall domestic aviation security program may include other recommendations.

This concludes my testimony, Madam Chairwoman. I will be happy to answer any questions you may have at this time.

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This concludes my testimony, Madam Chairwoman. I will be happy to answer any questions you may have at this time.

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