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EFFECTIVENESS OF THE CIVIL AVIATION SECURITY PROGRAM.(U)

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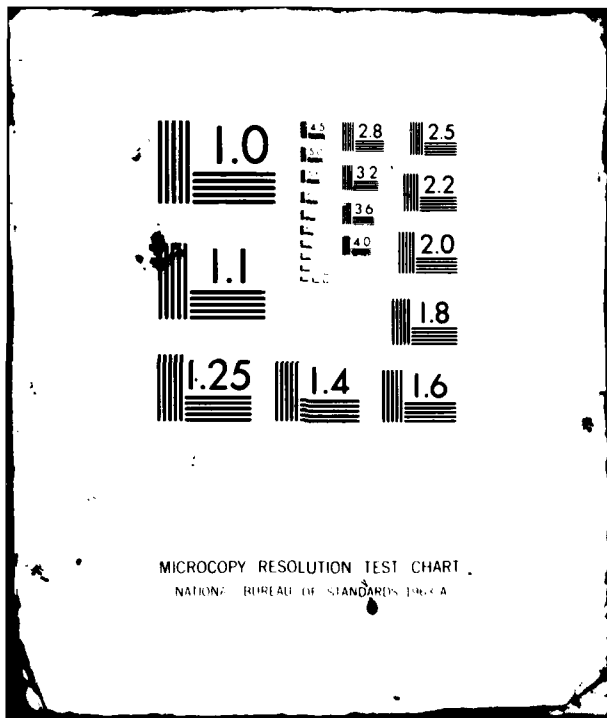
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16. Abstract The report includes an analysis of the current threat against civil aviation along with information regarding hijacking attempts, security incidents, bomb threats, and passenger screening activity. It also summarizes ongoing activities to assure adequate protection of civil air commerce against hijacking/sabotage and related crimes, and other aspects of the Civil Aviation Security Program.					
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**DEPARTMENT OF TRANSPORTATION  
FEDERAL AVIATION ADMINISTRATION**

WASHINGTON, D.C. 20591

March 31, 1978

Honorable Walter F. Mondale  
President of the Senate  
Washington, D.C. 20510



OFFICE OF  
THE ADMINISTRATOR

Dear Mr. President:

I am pleased to forward the Federal Aviation Administration's Semi-Annual Report to Congress on the Effectiveness of the Civil Aviation Security Program. This report, covering the period July 1 - December 31, 1977, is submitted in accordance with Section 315(a) of the Federal Aviation Act as amended by Public Law 93-366.

The report indicates that criminal acts continue to threaten the safety of civil aviation operations and that effective security measures remain necessary. The 30 hijackings (5 U.S. and 25 foreign) of scheduled air carrier flights in 1977 are more than in any year since 1972. The high visibility of civil aviation will continue to make it an attractive target for criminal acts.

The cornerstone of the U.S. program--the passenger screening system--continues to prevent weapons from being carried aboard aircraft. In the five years this system has been in effect, no U.S. hijackings have resulted from the introduction of real firearms or explosives. In contrast, 21 of the 25 foreign air carrier hijackings in 1977 can be attributed to weak passenger screening procedures.

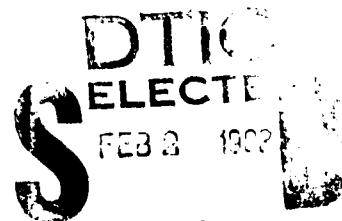
Many initiatives are underway to achieve effective security standards throughout the world. The U.S. concern was exemplified in Secretary of Transportation Brock Adams' appearance before a special meeting of the Council of the International Civil Aviation Organization in which he urged that nations require screening of all passengers and all carry-on items on international flights.

In all our efforts aviation safety is our number one priority. The current U.S. Civil Aviation Security Program has demonstrated a proper balance of adequate security with the primary purpose of the system--the reliable, efficient, safe and secure flow of people and property.

A report has also been sent to the Speaker of the House of Representatives.

Sincerely,

  
Langhorne Bond  
Administrator



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I. INTRODUCTION

This is the seventh Semi-Annual Report to Congress on the Effectiveness of the U.S. Civil Aviation Security Program. It covers the six-month period July 1 - December 31, 1977, and is submitted pursuant to Section 315(a) of the Federal Aviation Act as amended by the Air Transportation Security Act of 1974 (Public Law 93-366).

The report includes an estimate of the current threat against civil aviation along with information regarding hijacking and sabotage incidents, bomb threats, and passenger screening activity. It also summarizes ongoing activities to assure adequate protection of civil air commerce against hijacking/sabotage and related crimes.

I. EXECUTIVE SUMMARY

The Threat. The worldwide increase in hijackings that began in the first half of 1977 continued during the last six months of the year. Fifteen hijackings of scheduled air carrier flights during this reporting period brought the 1977 total to 30--double the total for 1976 and more than in any year since the 1968-1972 peak in worldwide hijackings. In spite of worldwide aviation security improvements, this trend indicates that the hijacking threat persists and that further improvements are necessary to assure universal application of effective international security measures.

Twenty-five of the 30 air carrier hijackings in 1977 involved non-U.S. aircraft. Twenty-one of the 25 foreign hijackings occurred because of weak passenger screening procedures. The weapons used in those incidents apparently were introduced through the normal passenger boarding process and should have been intercepted by effective passenger and carry-on baggage screening procedures.

The 5 hijackings of U.S. air carriers in 1977 were more than any other nation experienced. However, none occurred because of weapons penetrating the screening system. The 25 foreign hijackings involved aircraft of 17 nations with hijackers boarding at 24 different airports.

During the last six months of 1977, 34 criminal acts against civil aviation occurred throughout the world, resulting in 114 deaths and 26 injuries. These incidents brought the 1977 total to 69 criminal acts against civil aviation resulting in 129 deaths and 68 injuries. Eleven of the incidents during this reporting period, resulting



in 3 deaths and 4 injuries, involved U.S. civil aviation. Since 1974, worldwide criminal acts against civil aviation have resulted in 614 deaths and 489 injuries, with 115 deaths and 109 injuries involving U.S. civil aviation.

The continuing acts of aircraft hijacking and sabotage, coupled with the growing cooperation and alliances between terrorist organizations, indicate that the threat of criminal acts against civil aviation is significant throughout the world. Current estimates show that the greatest danger remains in Europe and the Middle East.

Incidents. During the period covered by this report, there were 3 U.S. air carrier hijackings. None were successful--in two incidents the hijackers surrendered and in the third the hijacker committed suicide. There were no injuries to passengers or crewmembers in any of the U.S. hijackings. In comparison to the U.S. record, there were 12 foreign air carrier hijackings--9 of which were successful.

On August 13 an explosive device detonated near a Venezuelan Air Force aircraft at Miami, Florida, International Airport. An anti-Castro Cuban group claimed credit for the bombing which caused minor damage and no injuries. Two other incidents caused disruption to air services when hoax explosive devices were discovered at Seattle International Airport and aboard a Pan American Airways jetliner en route from New York to London.

Over 890 bomb threats were directed against U.S. aircraft and airports. These threats resulted in at least 160 aircraft flight delays or diversions, 40 airport facility evacuations and 430 airport and aircraft searches, each contributing to passenger inconvenience and interruption of normal operations.

Passenger Screening. In contrast to the foreign experience noted above, no U.S. hijackings since 1973 resulted from real firearms or explosives passing undetected through passenger screening points. While not infallible, the effectiveness of the U.S. passenger screening system is demonstrated by the fact that there has been only one successful hijacking of a U.S. air carrier since November 10, 1972. During this same period there have been 40 successful hijackings of foreign air carriers throughout the world.

During the period covered by this report, 985 handguns were detected in the screening process. In 440 cases weapons were detected under circumstances which led to the arrest of individuals involved. The arrests resulted in 426 persons charged with violations of local laws and 14 charged with violations of Federal statutes.

Security Actions. The U.S. Civil Aviation Security Program currently involves 36 U.S. and 72 foreign airlines operating some 14,000 scheduled passenger flights each day to and from 618 U.S. and foreign airports and boarding some 685,000 passengers and 930,000 pieces of carry-on baggage daily. In spite of the complexities involved in a system of this magnitude, the security measures currently applied by the U.S. aviation industry afford air travelers a level of security unmatched in the world and in any other type of travel.

A major revision of the regulation that established basic airport security requirements is nearing final rulemaking action. One of the most significant revisions proposed would provide flexibility in meeting the requirement for law enforcement presence and capability at air carrier airports. The proposed change would permit officers to patrol airport terminals provided they could immediately respond to the passenger screening point if needed. Such arrangements could enhance overall terminal security and also result in more efficient use of police personnel at airports where this alternative is feasible.

Explosives detection dog teams have now been assigned to support 30 U.S. airports which are strategically located to provide readily available emergency support to en route aircraft encountering bomb threats. The teams have maintained a 96.6% detection surety rate and a false alert rate of only 8.2%. To date, the teams have discovered 22 explosive items in the course of 2241 aircraft and airport searches.

Recent changes in charter flight procedures and operations have resulted in the elimination of several previously "built-in" security safeguards. In light of these changes a regulatory project has been initiated to require airlines to screen passengers on charter flights. The new requirement would apply to the charter operations of 30 flag and domestic certificated carriers, the operations of 7 supplemental (all-charter) carriers, the charter operations of more than 200 foreign carriers into or out of the

United States and the charter operations of 6 commercial carriers that conduct scheduled intrastate passenger service.

Aggressive research and development efforts have continued to improve security screening equipment and to minimize passenger inconvenience. Emphasis is being placed on developing new techniques and equipment to effectively and efficiently detect explosives at airports, in checked baggage, in cargo and on aircraft. A number of airport operational tests have been conducted and more are scheduled. Explosive detection methods currently being explored include x-ray absorption, nuclear magnetic resonance, thermal neutron activation, x-ray fluorescence and vapor detection.

During this reporting period many positive initiatives were taken to achieve common and high security standards among countries throughout the world. On November 3, Secretary of Transportation Brock Adams appeared at a special meeting of the Council of the International Civil Aviation Organization (ICAO) in Montreal and pointed out the increasing severity of the threat and the need to adopt more stringent international standards for the security of the worldwide aviation system. He told ICAO that the most basic and pressing need is an upgrading of current ICAO security standards to require the screening of all passengers and all carry-on items on all flights at all times. The U.S. subsequently submitted several specific proposals which, along with similar proposals from other nations, are currently being considered by ICAO.

In response to the increased number of hijackings in 1977, the FAA issued an advisory bulletin to the international aviation community emphasizing the need for effective and ongoing screening procedures along with adequate training and supervision of screening personnel. This bulletin was followed by an offer to make available to other nations procedures used by the U.S. to assure effective operation of screening equipment. These procedures have been requested by and provided to 38 nations.

Compliance and Enforcement. The Civil Aviation Security Program is implemented through a series of Federal Aviation Regulations which are, as any laws, subject to both inadvertent and deliberate violations. In 1977, FAA completed 836 investigations involving alleged violations by airports,

U.S. and foreign air carriers and by passengers. Fifty-nine resulted in payments of civil penalties amounting to \$72,250.

Outlook. The rising number of hijackings throughout the world and the attractiveness of civil aviation as a target of criminal acts indicate that effective security measures remain necessary. The security problems facing the worldwide aviation system generally are not easy ones to solve. The potential for criminal acts and the dynamic nature of the system require continuing attention and monitoring to ensure effective security measures are implemented.

U.S. measures appear to be capable of meeting and containing the present threat while at the same time serving the primary purpose of the system--the reliable, efficient, safe and secure flow of people and property. Passenger reactions indicate that the current procedures are desired and expected in the interest of aviation security.

### III. CURRENT THREAT AGAINST CIVIL AVIATION

Aircraft hijackings and sabotage continue to threaten the lives and property of persons traveling in civil air commerce. The increased number of worldwide hijackings during this reporting period indicates that the hijacking threat persists, and that effective and continuing civil aviation security measures remain necessary.

Acts of terrorism continue to pose a threat to civil aviation throughout the world. Cooperation and alliances between terrorist organizations continued during this reporting period as evidenced by mutual training, financial assistance and exchange of sophisticated weaponry and technical aid by sympathetic nations in the Middle East and Africa.

The greatest danger remains in Europe, the Middle East and, to a lesser degree, in South America. Terrorist groups in Europe and the Middle East have strengthened their coordination and contacts with other revolutionary groups, thus increasing the possibility of terrorist criminal acts against international targets, including acts by one organization on behalf of another. Terrorist activity in South America has been somewhat curtailed during this reporting period due primarily to security operations which have limited the capability of terrorist groups to conduct

criminal operations. However, the activities of guerrilla groups appear to have increased in the Central American countries of El Salvador, Guatemala and Nicaragua. In the U.S., Cuban anti-Castro exile groups have increased their criminal attacks and threats against airlines that announced the initiation of service to Cuba.

The alarming worldwide increase in hijackings that began in the first half of 1977 continued during the last six months of the year. There were 32 hijackings in 1977--30 scheduled air carrier flights, 1 foreign charter flight and 1 U.S. general aviation flight. The 30 scheduled air carrier hijackings were double the total for 1976 and more than in any year since the 1968-1972 peak in worldwide hijackings. Most involved European and Middle East air carriers--but 5 involved U.S. airlines. In the case of the non-U.S. hijackings, it appears that most of the weapons involved were introduced through the normal passenger boarding process and should have been intercepted by effective passenger and carry-on baggage screening procedures. The 25 foreign hijackings involved aircraft of 17 nations with hijackers boarding at 24 different airports.

The current concern with terrorism and ways to prevent terrorist acts dramatizes that aviation facilities, especially large commercial aircraft, are attractive targets for terrorists. However, it is significant to note that the great majority of airline hijackings are not acts committed by terrorists. Most are committed by fleeing felons, mentally deranged persons, or individuals looking for personal gain. Of the 30 airline hijackings in 1977, only 5 fall in the terrorist category. Put another way vis-a-vis terrorism, of the approximate 250 terrorist acts worldwide during 1977, only 5 were hijackings. The 1977 record is consistent with prior experience. Of the 151 U.S. airline hijackings that occurred since 1968, only 4 can be placed in the category of terrorist acts designed to achieve political objectives. Similarly, of the 268 foreign hijackings that occurred during that period, only the same relatively small percentage can be included in the political terrorist category.

While the hijacking threat persisted, sabotage also constituted a severe and increasing threat to civil aviation.

During the last six months of 1977, 34 criminal acts involving civil aviation occurred worldwide resulting in 114 deaths and 26 injuries. Fifteen of these incidents were hijackings; 10 were explosions at airports, on aircraft or at airline offices; 4 involved live explosive devices found at airports and on aircraft; 2 involved terrorist attacks at airports and 3 other incidents involved aircraft or aviation facilities. Eleven of the incidents, resulting in 3 deaths and 4 injuries, involved U.S. civil aviation.

By comparison, during the first six months of 1977, a total of 35 criminal acts involving civil aviation occurred worldwide resulting in 15 deaths and 42 injuries. Seventeen were hijackings; 12 were explosions at airports, on aircraft, or at airline offices; 5 involved live explosive devices found at airports and on aircraft; and 1 other criminal act. This comparison shows that the number and types of criminal acts involving civil aviation were equally distributed throughout the two 6-month periods in 1977. Since 1974, worldwide criminal acts against civil aviation have resulted in 614 deaths and 489 injuries, with 115 deaths and 109 injuries involving U.S. civil aviation.

(See Exhibits 1 & 2)

#### IV. INCIDENTS DURING REPORTING PERIOD

Hijacking, sabotage and threats of criminal acts against U.S. civil aviation during the last six months of 1977 are described below:

Hijackings - There were 3 U.S. air carrier hijackings and no U.S. general aviation hijackings. This brought the 1977 total to 5 U.S. air carrier hijackings and 1 U.S. general aviation hijacking, none of which were successful.

- o Air Carrier Aircraft - In comparison to the 3 non-successful U.S. air carrier hijackings there were 12 foreign air carrier hijackings throughout the world, 9 of which were successful.

(See Exhibits 3 & 5)

- On August 20 a male passenger hijacked a Western Airlines B-707 jetliner en route from San Diego, California, to Denver, Colorado. The man claimed to have a bomb in a paper bag which he was holding. He ordered the aircraft to land at Salt Lake City, Utah, where he voluntarily surrendered to the FBI.

It was determined that he did not have a bomb or other weapon. Based on psychiatric examinations, Federal air piracy charges were dismissed; however, he was placed on five years controlled probation which includes voluntary psychiatric care.

- On October 20 a man, armed with a sawed-off shotgun, forced his way through the passenger screening station at Grand Island, Nebraska, and took control of a Frontier Airlines B-737 aircraft which was being prepared for a flight to Lincoln, Nebraska. The pilot was forced to fly to Kansas City, Missouri, where 18 passengers were released. The hijacker demanded \$3 million, parachutes, weapons and ammunition and the release of a friend who was incarcerated in an Atlanta, Georgia, jail. The aircraft, under the control of the hijacker, continued to Atlanta where, after hours of negotiations, the man agreed to release the remaining passengers and allow his attorney to board the aircraft. After talking with his attorney, the hijacker walked to the rear of the aircraft and unexpectedly committed suicide by shooting himself in the chest. There were no other injuries.
  
- On December 25 a male passenger hijacked an Eastern Air Lines DC-9 aircraft en route from Jacksonville, Florida, to Atlanta, Georgia. The man displayed what appeared to be a pistol and handed a flight attendant a note stating that an explosive was wired to his body. He demanded to be taken to Cuba. After landing in Atlanta, the man allowed all women and children to deplane and permitted law enforcement officers to board the aircraft to talk with him. The officers were able to grab the alleged explosive device and overpower the hijacker. The device turned out to be a small plastic radio wrapped in tape and the firearm was found to be a plastic toy pistol. The man was charged with the Federal offense of air piracy and held in custody in lieu of \$250,000 bond.
  
- o General Aviation Aircraft - Although current civil aviation security requirements do not extend to general aviation activities, hijackings of general aviation aircraft continue to be a matter of concern. During the last six months of 1977 there were no hijackings of general aviation aircraft. During the previous reporting

period--January - June 1977--there was 1 hijacking attempt in which the lives of individuals involved were seriously jeopardized.

(See Exhibit 4)

Aircraft/Airport Sabotage - Summaries of three explosive/sabotage incidents involving U.S. aircraft or airports during this reporting period follow:

- o On August 1 a device which appeared to be a homemade explosive was found in the terminal lobby of Seattle, Washington, International Airport. The device consisted of a small medicine bottle containing a battery, a flashlight-type bulb and filler material all constructed to resemble a bomb. Subsequent investigation proved the device was not capable of detonation. No suspects have been developed.
- o On August 13 an explosive device detonated approximately 30 yards from a Venezuelan Air Force DC-9 aircraft parked near a fixed-base operators facility at Miami, Florida, International Airport. The device had apparently been placed in a box and thrown over the airport perimeter fence. The explosion caused minor damage and no injuries. An anti-Castro Cuban organization called the Pedro Luis Boitel Group claimed credit for the explosion and said the bombing was in retaliation for the jailing of political prisoners in Venezuela. The same group had previously claimed credit for bombing the offices of Mackey Airlines in Ft. Lauderdale, Florida, in May 1977 because Mackey was considering initiating commercial flights to Cuba.
- o On September 9 a dummy explosive device was found aboard a Pan American Airways jetliner en route from New York to London. The device was discovered wired to the plumbing under a sink in a rear lavatory after an anonymous caller warned Pan American that two bombs were aboard the aircraft. The flight was diverted to Shannon, Ireland, where passengers and crew were evacuated and the aircraft was searched for additional bombs. The device was subsequently determined to be two highway safety flares taped together with a battery. No suspects have been identified.

Although not directly involving an airport or aircraft, two other significant sabotage incidents occurred when airline ticket offices were bombed in Washington, D.C., and in Miami.



Anti-Castro Cuban groups claimed credit for bombing the offices of Aeroflot Airlines in Washington on September 7 and the bombing of Venezuelan Airline offices in Miami on December 23. Other nearby offices, including those of Delta and National Airlines, were damaged in the Miami explosion.

Bomb Threats - Threats involving the use of explosives against aircraft and airports in the U.S. increased by 5% over the previous reporting period. The 647 bomb threats reported against aircraft represents an 11% increase from the 582 reported in the first six months of 1977. It is encouraging to note that for the third consecutive six-month reporting period bomb threats reported against airports have decreased--from 269 in the first six months of 1977 to 250 during the last six months. Twenty-four threats during this reporting period were accompanied by extortion demands on the airlines or airports involved.

(See Exhibits 6 & 7)

To obtain a more accurate picture of the significance of bomb threats, a distinction has been made between frivolous-type threats and the more serious threats. A separate analysis of serious threats, as defined in Exhibit 6, provides an account of the adverse effects on the aviation industry.

Of the 647 bomb threats against aircraft from July to December 1977, 343 were in the serious category--a 17% increase from the 293 reported in the first half of 1977. About 83% (284) of the serious threats were received telephonically. The others were made either verbally at screening points or other locations, or in written or visual forms. The threats against aircraft resulted in at least 160 reported flight delays or diversions and at least 260 aircraft searches, each contributing to passenger inconvenience and disruption of airline operations. The threats were not concentrated against any particular airline--they involved 53 air carriers, including 27 foreign. Forty-nine, or about 14%, of the serious threats were directed against foreign air carriers in the U.S.

Almost all of the 250 bomb threats against airports had to be taken seriously since 92% were received under circumstances that made immediate evaluation difficult. These threats resulted in at least 40 evacuations of airport facilities, at least 170 searches and contributed to numerous

air carrier flight delays. The threats involved 60 airports across the nation. Although the decrease in airport bomb threats appears to be significant, the extremely high number of threats received during the first half of 1976 must be considered. As indicated in Exhibit 7, there was a large increase in airport bomb threats in the first few months following the bombing at La Guardia Airport on December 29, 1975. This increase was due mainly to the wide publicity given to the bomb explosion throughout the nation. Since the La Guardia incident, bomb threats against airports have remained at a level higher than before the incident.

Aircraft and airport bomb threats resulted in 39 reports of persons arrested under Federal or local statutes. Twenty-nine resulted in local charges against the subjects and 10 in Federal charges. One Federal case was dismissed and the final prosecutive disposition of the remaining 9 Federal cases has not yet been reported. Two of the local cases resulted in fines; 3 were dismissed and the final prosecutive disposition of the remaining cases has not yet been reported.

Possible Hijackings or Related Crimes Prevented - The number of hijacking attempts or other crimes against civil aviation prevented or deterred by airline and airport security procedures cannot be determined with certainty. However, the number of firearms detected at passenger screening points under suspicious circumstances and the number of individuals apprehended while attempting to gain unauthorized access to aircraft indicate that some of these individuals were intent on committing a crime. Although evidence was not strong enough to identify any appropriate specific incidents during this reporting period, the large quantity of weapons detected during the passenger screening and the number of related arrests support a reasonable assumption that criminal acts against civil aviation were prevented. Since January 1974, an estimated 72 possible hijackings or related crimes may have been prevented--strong evidence of the effectiveness of the security measures in use.

(See Exhibit 8)

V. EFFECTIVENESS OF PASSENGER SCREENING PROGRAM

Airline passenger screening procedures continue to effectively prevent weapons and dangerous articles from being carried aboard aircraft. All passengers and their carry-on items are screened prior to boarding all scheduled flights.

Screening equipment consists primarily of walk-through weapons detectors for individuals and x-ray inspection systems for carry-on items, especially at high-volume stations. One thousand fifty-four walk-through weapon detectors and 526 x-ray baggage inspection systems are currently in use. Continuous efforts are underway to improve the screening equipment and to minimize passenger inconvenience. As indicated in previous reports, passenger reactions continue to indicate that the screening procedures are desired and expected in the interest of aviation security.

(See Exhibits 9 & 10)

As noted earlier in this report, most of the hijackings involving foreign air carriers in 1977 occurred because of weak passenger screening procedures. The weapons involved in those incidents should have been detected and intercepted by effective passenger screening measures. In contrast to the foreign experience, no U.S. hijackings since 1973 resulted from real firearms or explosives passing undetected through passenger screening points.

The system is not infallible. However, its effectiveness is clearly demonstrated by the fact that there has been only one successful hijacking of a U.S. air carrier since November 10, 1972. During this same period there have been 40 successful hijackings of foreign air carriers throughout the world. The outstanding U.S. record is even more impressive when it is considered that U.S. aviation activity is roughly equal to the activity of the rest of the free world combined.

As seen in Exhibit 3, the current U.S. passenger screening program, initiated in 1973, brought about a dramatic decrease in hijacking attempts against U.S. air carrier aircraft--from 27 in 1972 to 1 in 1973. In 1974 there were 3 attempts against U.S. air carriers; in 1975 there were 6; in 1976 there were 2; and in 1977 there were 5. Since January 1973 over 15,000 firearms have been detected during the passenger screening procedures resulting in almost 5,000 arrests under local or Federal charges.

Reporting and analytical procedures relating to the detection of items during the screening process are focused on those weapons and dangerous devices considered to present the greatest threat to aviation security. Specifically, the analysis of passenger screening activities concentrates on the detection of firearms and explosive/incendiary devices along with related intelligence, arrest and prosecutive information.

During this reporting period more than 265 million persons (passengers and nonpassengers) were processed through the airline screening points at the nation's 450 air carrier airports. The detection of 1160 firearms, including 985 handguns, is a 33% increase from the 874 firearms detected in the first six months of 1977. The 985 handguns detected represents a 32% increase over the 745 detected during the previous six-month period. Of the 985 handguns detected during this period, 841 (85%) were found by x-ray inspection of carry-on items, 76 (8%) by weapons detector screening of individuals and 68 (7%) by physical search of carry-on items.

(See Exhibit 11)

Along with the increase in persons screened and firearms detected there was, predictably, an increase in related arrests. In 440 incidents, firearms were detected under circumstances which led to the arrest of individuals under Federal or local statutes. These 440 arrests occurred in the operations of some 20 U.S. air carriers at 88 airports. Twenty-four large hub airports (e.g., Los Angeles and Chicago) accounted for 254 or 58% of the arrests, and 19 medium hub airports (e.g., Memphis and Anchorage) for 104 or 24%. The other 82 arrests occurred at 45 small and nonhub airports (e.g., Little Rock and Richmond).

The 440 reported firearms arrests include 426 cases in which local charges were filed against persons involved and 14 cases in which Federal criminal charges were filed. Of the 426 local cases, 105 resulted in fines or penalties of confinement, probation or supervision. Charges were dismissed in 78 cases and the prosecutive disposition of the remaining 243 local cases has not yet been reported. The 14 Federal cases resulted in 6 convictions with sentences including confinement, fines, and/or probation. The disposition of the remaining 8 Federal cases has not yet been reported.

Previous Reports to Congress indicated plans to reduce the continuing large quantity of weapons brought to airports and detected in the passenger screening process. Public education efforts were initiated to make a broader section of the public aware that it is a violation of law to attempt to carry a weapon aboard an aircraft. Although there was a nationwide increase in weapons detected during this reporting period, there is evidence that the public education program is producing positive results at certain airports. For example, in Birmingham, Alabama, concerted efforts were made

by the local community to publicize the Civil Aviation Security Program. Positive results are seen in comparing the number of firearms detected at Birmingham in the last six months of 1976 with those detected during the last six months of 1977. Firearms decreased from 72 to 45, a 38% reduction, and related arrests decreased from 35 to 15, a 57% reduction. Public education efforts will continue with particular emphasis on those airports which record the highest number of firearms detections and arrests.

VI. CIVIL AVIATION SECURITY ACTIONS

The U.S. Civil Aviation Security Program currently involves 36 U.S. and 72 foreign airlines operating some 14,000 scheduled passenger flights each day to and from 618 U.S. and foreign airports and boarding some 685,000 passengers and 930,000 pieces of carry-on baggage daily. In spite of the vast complexities involved in this system, the security measures currently applied by the aviation industry afford air travelers a level of security unmatched in any other type of travel.

(See Exhibit 12)

The concept of shared responsibilities involving airlines, airports, local communities, the Federal Government and the passengers continues to produce an effective Civil Aviation Security Program. Basic policies guiding the program recognize airline responsibilities for the safety of passengers, baggage and cargo in their care as well as for the safeguarding of their aircraft. Similarly, airport operators are responsible for maintaining a secure ground environment and for providing local law enforcement support for airline and airport security measures. And finally, with the inclusion of security costs in the operating expenses of U.S. air transportation systems, the passengers--ultimate beneficiaries of the security program--are directly involved in paying the costs in domestic airline fares.

(See Exhibit 13)

During this reporting period, a number of significant actions were taken to maintain the high level of security for U.S. civil air commerce:

Airport Security - Although airport operators continue to maintain a high standard of security awareness and vigilance at U.S. air carrier airports, actions have been initiated to provide this security more efficiently. Some of the contributing initiatives are highlighted below:

- o Federal Aviation Regulations Part 107 - The last two Reports to Congress contained details of a project to revise Federal Aviation Regulations Part 107 to clarify and update the rules and to modify them in accordance with Public Law 93-366, The Air Transportation Security Act of 1974. The proposed new rules were published in the Federal Register June 16, 1977, as Notice of Proposed Rule Making, No. 77-8. The civil aviation industry, U.S. and foreign government agencies and a large number of individuals commented on the proposal. All views and arguments are receiving careful consideration in connection with final rulemaking action.

As pointed out in previous Reports, one of the most far-reaching proposals in Notice No. 77-8 would provide flexibility in meeting the present requirement for law enforcement presence and capability at air carrier airports. Under the current rule, officers are required to remain at a fixed station at passenger screening points. Under the proposed rules, the officers, under certain circumstances, would be allowed to patrol the terminal area provided they could immediately respond to the screening point if needed. Such arrangements could enhance overall terminal security and also result in more effective use of police personnel. To test this proposed alternative under a variety of conditions, exemptions to the current requirement were granted to three airports. The Dallas-Fort Worth Regional Airport will utilize a sophisticated system of closed circuit television cameras, electronic and mechanical devices, coupled with police patrols. The Houston Intercontinental Airport will update communications systems and assign officers so they can respond quickly from at least two directions to any trouble spot. In consideration of the needs of smaller airports, the Lincoln Municipal Airport in Nebraska will test a discrete signaling system which will enable one officer to support and respond to two different screening points with radio-controlled backup support available as needed.

Another progressive innovation directed toward more efficient utilization of available manpower at smaller airports is an ongoing test of the feasibility of one person carrying out the dual functions of law enforcement and passenger screening. At present, this concept is restricted to a few low volume airports under

conditions requiring that the one person must be a law enforcement officer with adequate control over the entire passenger screening environment. Early reports indicate that this arrangement will meet the needs of some small airports.

- o Civil Aviation Security Training School - A special aviation security training program was established in 1973 at the Transportation Safety Institute in Oklahoma City. The course is primarily for local law enforcement officers assigned to support airline and airport security programs. The tuition, travel and per diem costs of these officers are funded by the Law Enforcement Assistance Administration (LEAA). The current 8-day course provides indepth coverage of civil aviation security requirements, procedures and techniques. Through 1977, 77 classes were conducted for 1830 students including 1302 local police officers, and 226 foreign students as well as 243 FAA security personnel, 36 representatives of other U.S. Government agencies, and 23 aviation industry officials. In addition to the formal classes at Oklahoma City, special 2-day seminars, attended by 1154 persons, have been conducted at 16 airports located at key cities across the nation.
  
- o Explosives Detection Dog Teams - During 1972, in cooperation with the LEAA, FAA sponsored a program to strategically locate specially Air Force-trained explosive detection dog teams in key cities near major airports. The concept was to position the teams so that this emergency support would be readily available to threatened aircraft flying over the United States. During 1977 six additional cities joined the program to bring the total number of airports provided this emergency support to 30. To date, in actual explosive detection missions, the teams have detected 22 explosive items in the course of 2241 aircraft and airport searches. In addition, they have conducted 3153 explosive searches in their local community, detecting 81 additional explosive items.

(See Exhibit 14)

The third annual proficiency evaluation of the teams completed in 1977 revealed that they have maintained a 96.6% detection surety rate with a false bomb alert rate of 8.2%. Average search times ranged from 20

minutes for terminal building areas to 9 minutes for vehicles. Aircraft search time averaged 16 minutes, baggage areas 11 minutes, and cargo areas 18 minutes.

(See Exhibit 15)

Aircraft Security - The Air Carrier Standard Security Program, which became effective in January 1976, has now been adopted by all U.S. scheduled air carriers. Conscientious implementation of the program, which was developed in coordination with the airlines, has led to more effective and uniform airline security procedures. The following significant steps were taken to supplement existing procedures and promote increased effectiveness in industry-wide security procedures.

- o Charter Flight Operators - Recent changes in charter flight procedures and operations have resulted in the elimination of several previously "built-in" security safeguards. Because of recent changes, including the elimination of the requirement that only "affinity" groups can qualify for reduced charter fares, a regulatory project has been initiated to require airlines to screen passengers on charter flights.

The new requirement would apply to the charter operations of 30 flag and domestic certificated carriers, the operations of 7 supplemental (all-charter) carriers, the charter operations of more than 200 foreign carriers into or out of the U.S. and the charter operations of 6 commercial carriers that conduct scheduled intrastate passenger service.

It also would require airport operators presently covered by security regulations to provide for armed law enforcement officers to assist in the screening of charter flight passengers just as they are now required to provide them for the screening of scheduled flight passengers. Charter operators would be required to provide for law enforcement officers at airports not presently covered by security regulations.

- o Carriage of Weapons and Escorted Persons Aboard Aircraft - On August 25 a Notice of Proposed Rule Making was issued to amend Federal Aviation Regulations Part 121 by specifying the conditions that must be met when passengers (such as prisoners) under the control of armed law enforcement officers are carried aboard scheduled air carrier passenger flights.



Other proposed changes would require an air carrier to obtain from any persons transporting a firearm in checked baggage a declaration that the firearm is unloaded. In addition, it was proposed to eliminate the requirement that long guns, such as shotguns and rifles, being transported as checked baggage, be contained in locked containers, thereby relieving a requirement now imposed on hunters and other sportsmen. Experience has shown over the years that such firearms have not been a factor in aircraft hijackings.

- o Foreign Air Carriers - Seventy-two foreign air carriers are currently covered by Federal Aviation Regulations Part 129 requiring them to use security programs similar to those used by U.S. air carriers. Program reviews and onsite assessments during this reporting period at both U.S. and foreign stations indicate the foreign air carriers are complying with the security requirements.

Research and Development - Aggressive research and development efforts have continued to improve security screening equipment and to minimize passenger inconvenience. Emphasis has been placed on developing new techniques and equipment to efficiently and effectively detect explosives at airports, in checked baggage, in cargo and on aircraft. Guiding principles are that new equipment must be reliable, easily maintained and operable by relatively unskilled personnel. It must not present safety hazards or damage luggage or its contents and airports, airlines and passengers must be able to afford them.

All known systems and methods for detecting explosives are being explored. The current status of techniques being pursued follows:

- o X-Ray Absorption - An x-ray absorption concept (automatic computer-based analysis of the size, shape and x-ray opacity of checked baggage contents) is being studied. Two experimental models have been built and used at Washington National and Newark International Airports to gather data on checked baggage. An operational test was conducted in December at Newark International Airport. This test demonstrated sufficient detection capabilities to warrant further aggressive and expeditious development. It is planned that three preproduction prototype systems will be available in 1980 for further use and testing.

- o Nuclear Magnetic Resonance - This technique involves the detection of a characteristic response of explosive molecules when they are subjected to pulsed magnetic and radio frequency fields. A prototype checked baggage system using this technique is being designed and fabricated under a current contract. A scale model has been constructed and a demonstration of the feasibility of this concept will be conducted in the spring of 1978. Based on results of this demonstration, a decision will be made on whether to proceed further with this concept.
  
- o Thermal Neutron Activation - The technical feasibility of this concept (identification of explosives by means of the unique nuclear reaction of the nitrogen atoms present in explosives) has been demonstrated. A current contract calls for the design and construction of a portable system which can be tested at different airports. The first tests are planned for February 1979.
  
- o X-Ray Fluorescence - A study contract has been initiated to evaluate the x-ray fluorescence concept (excitation of unique fluorescent reradiation from blasting caps due to normal constituents or added materials). Further development of this technique will depend on the results of this study contract. The final report is due in the spring of 1978.
  
- o Vapor Detection - All commercially available explosive vapor detectors have been evaluated at the Transportation Systems Center. The results indicate that none of these detectors are adequate to process checked baggage in an airport environment. A longer range program is underway to identify the types and quantities of unique vapors associated with different types of explosives.

(See Exhibit 16)

International Activities - Since 1975, the Semi-Annual Reports to Congress have highlighted the continuing problem of worldwide hijackings and the increasing worldwide concern about criminal attacks against civil aviation. In 1977 there were 30 scheduled airline hijackings--twice as many as in 1976 and more than in any year since 1972. During this six-month period worldwide attention and publicity centered on two major hijacking incidents which involved U.S. citizens and had a direct impact on the safety of U.S. citizens abroad.

- o On September 28 a Japan Airlines DC-8 carrying 156 passengers, including 10 Americans, was hijacked shortly after departing Bombay, India. The hijackers--members of the Japanese Red Army terrorist group--demanded \$6 million and the release of 9 prisoners in Japan. The aircraft landed in Dacca, Bangladesh, where it remained for several days. After many hours of negotiations and continued threats by the hijackers, the Japanese Government agreed to provide the \$6 million ransom and release the prisoners. After exchanging some of the hostages for the ransom money and prisoners, the hijacked aircraft departed Dacca and subsequently landed in Algiers, Algeria, after stops in Kuwait and Damascus. The hijackers and their released prisoner companions surrendered to Algerian authorities. The disposition of the hijackers and the money has not been made public.
  
- o On October 13 a Lufthansa B-737 en route from Palma, Mallorca, to Frankfurt, Germany, was hijacked by four armed terrorists. Two American citizens were among the 86 passengers aboard the aircraft. The hijackers demanded the release of 11 imprisoned terrorists in West Germany and 2 in Turkey along with a \$15 million ransom. After three days and stops in four different cities, the hijacked aircraft landed in Aden, South Yemen. Shortly after landing, the hijackers fatally shot the pilot in full view of the passengers. On October 17 the aircraft departed Aden and landed at Magadiscio, Somalia. On the night of the 17th all hostages were rescued in a dramatic raid by West German commandos. Three of the hijackers were killed and the fourth was captured.

Although the airline hijack threat persists and the threat of aviation sabotage is serious, major progress has been made in strengthening civil aviation security measures throughout the world. The results are reflected in worldwide hijacking statistics which show that during 1970 and 1971, there were 141 hijacking attempts worldwide; whereas in 1976 and 1977, this figure was reduced to 50.

In 1968 there were no international aviation security standards. Since then, substantial improvements have been achieved primarily through ICAO. These include the formulation and adoption of International Standards and Recommended Practices on aviation security contained in Annex 17 to the Chicago Convention and the publication of an ICAO Security Manual. Other actions in the last decade

include the adoption of the Hague and Montreal Conventions providing for extradition or prosecution of persons responsible for hijackings and acts of sabotage against aviation facilities.

Most nations now have active civil aviation security programs and continuing improvements are being made. In the last six months of 1977 many positive initiatives were taken to achieve common and high security standards among countries throughout the world. Some of the more significant actions which contribute to safer air travel for U.S. citizens follow:

- o International Civil Aviation Organization - On October 4 the 22nd Session of the ICAO Assembly adopted unanimously two Resolutions urging States which have not yet done so to become parties to the Tokyo, Hague and Montreal Conventions and urging States to implement, as soon as possible, previous Resolutions, Standards, and Recommended Practices.

On November 3 Secretary of Transportation Brock Adams appeared before a special meeting of the ICAO Council and stated the United States' position that the international aviation community must adopt more stringent aviation security standards. The United States urged ICAO to build in a positive way on the steps that have already been taken. It was pointed out that the most basic and pressing need is an upgrading of worldwide standards to require screening of all passengers and all carry-on items on all flights at all times. ICAO is currently considering several U.S. proposals for strengthened international security measures along with proposals from other nations.

In December the ICAO Council adopted a Resolution urging all member States to implement specific antihijacking measures including the screening of passengers and cabin baggage on all flights.

- o United Nations - Shortly after the hijacking of the Lufthansa aircraft in October, the 32nd Session of the United Nations General Assembly adopted by consensus a Resolution condemning acts of unlawful interference with civil aviation. Worldwide concern for the lives of hijacked victims as expressed by the International Federation of Air Line Pilots Associations was instrumental in persuading the United Nations to act.

- o International Air Transport Association - At its Annual General Meeting in Madrid in November, IATA passed a resolution calling upon States to ratify the Tokyo, Hague and Montreal Conventions and suggesting that States who do not ratify them should not remain members of ICAO. IATA's membership includes over 100 of the world's major international airlines.
- o European Civil Aviation Conference - The FAA was represented as an observer for the first time at the sixth meeting of the Working Group on Security Problems of the ECAC in Paris, November 2-4. The U.S./FAA participation is another step forward in maintaining effective relationships with European government aviation security officials and contributing to international cooperation and mutual assistance in aviation security activities.
- o International Criminal Police Organization - Further evidence of the widespread positive interest taken in civil aviation security is seen in a resolution adopted by the 46th General Assembly of INTERPOL in September which emphasizes the necessity of close cooperation between law enforcement, civil aviation and airline officials of all nations. The FAA was represented as a member of the U.S. delegation to the conference and served on the committee which developed the resolution.
- o Foreign Technical Assistance - In addition to multilateral efforts such as those indicated above, FAA continues to pursue a bilateral program of technical assistance and exchange of information. In response to the rising number of foreign hijackings in 1977, FAA emphasized to the aviation community the need for effective and ongoing screening procedures along with adequate training and supervision of screening personnel. An offer was made to make available to other nations standards and procedures used by the U.S. to assure effective operation of passenger screening equipment. These procedures have been requested by and provided to 38 nations.

At the request of several nations, FAA technical assistance teams have visited their airports to conduct surveys and provide advice and assistance in improving their civil aviation security programs. The technical teams generally are funded through an Interagency Agreement with the LEAA. To date, the teams have carried out assistance visits to 20 countries.

Also available, upon request, are indepth briefings on all aspects of civil aviation security for foreign aviation and law enforcement officials. Officials from 64 countries have been provided these technical briefings. A number of audiovisual training presentations have also been developed and made available to many officials of foreign airlines and governments.

(See Exhibit 17)

#### VII. COMPLIANCE AND ENFORCEMENT

The Civil Aviation Security Program is implemented through a series of Federal Aviation Regulations and, as with any laws, the regulations are subject to both inadvertent and deliberate violations. The FAA approach is to prevent violations, to the greatest extent possible, by fostering an atmosphere of voluntary compliance and cooperative actions to promptly correct any deficiencies and weaknesses.

Nevertheless, there are instances of failure to comply. These are investigated and appropriate corrective actions taken including issuance of Warnings, Letter of Correction, or in more serious cases, assessment of civil penalties. During 1977, 836 investigations were completed involving alleged violations of FAA security regulations by airports, U.S. and foreign air carriers, and by passengers. Fifty-nine resulted in payments of civil penalties amounting to \$72,250; 667 were closed with administrative corrective action, including 413 Warnings issued to air carriers and airport operators. In 110 cases, the alleged violations were not substantiated and no enforcement actions were taken.

(See Exhibit 18)

#### VIII. OUTLOOK

Although there has been substantial improvement in security measures throughout the world, the incidents reflected in this report show that the potential for crimes against civil aviation remains. The security problems facing the U.S. and international civil aviation system generally are not easy ones to solve. They are usually not susceptible to engineering or mechanical solutions. They involve human factors such as recognition that the people operating the system are subject to human error and realization that criminals will attempt to penetrate the system. The dynamic nature of worldwide air transportation requires continuing attention and monitoring of the many facets involved in the total effort

necessary for effective security. The changing level and nature of the threat against civil aviation precludes a static solution.

U.S. aviation security measures appear to be capable of meeting and containing the present threat while at the same time serving the primary purpose of the system--the reliable, efficient, safe and secure flow of people and property.

**CIVIL AVIATION SECURITY  
THE THREAT TO U.S. AVIATION**

	1961-7	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977
Hijackings	12	22	40	27	27	31	2	7	12	4	6
Explosions:											
Aircraft	2	1	1	2	1	1	2	3	2	2	1
Airports						2	2	4	4	2	3
Explosive											
Devices Found:											
Aircraft					1	2	2	1	1	1	2
Airports					5	5	3	11	5	3	1
Bomb Threats To:											
Aircraft			400	601	1145	2156	1383	1453	1853	1950	1229
Airports					212	288	239	387	449	1036	519

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EXHIBIT 1



# Worldwide Criminal Incidents Involving Civil Aviation

Year	Deaths	Injuries	Total Incidents	Hijackings (Scheduled Air Carriers)	
				Foreign	U.S.A.
1968 *	2	2	30	13	17
1969 *	35	7	92	47	40
1970	92	32	82	56	25
1971	31	9	73	31	25
1972	159	96	88	31	27
1973	104	75	73	20	1
1974	170	59	62	19	3
1975	88	162	64	13	6
1976	227	200	55	13	2
1977	129 **	68	69	25	5

\* Statistical data prior to 1970 are approximations.

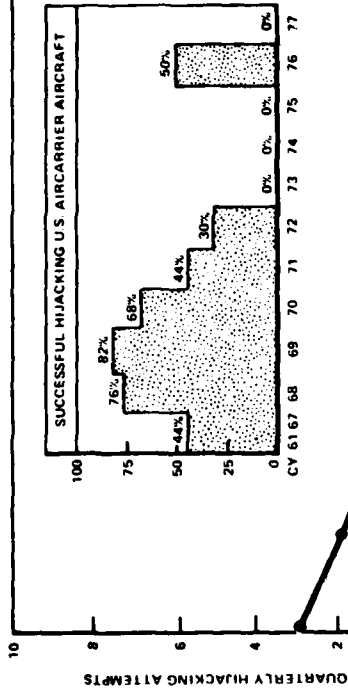
\*\* Includes 100 persons killed in crash of hijacked Malaysian Airliner on 12-4-77.

Updated By ACS  
Source: ACS 20

Department of Transportation  
Federal Aviation Administration

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# HIJACKING ATTEMPTS ON U.S. SCHEDULED AIR CARRIER AIRCRAFT



HIJACKING BY QUARTER	1ST CY 1975				2ND CY 1976				3RD CY 1977				4TH CY 1977			
	1ST	2ND	3RD	4TH	1ST	2ND	3RD	4TH	1ST	2ND	3RD	4TH	1ST	2ND	3RD	4TH
TOTAL	3	2	1	0	0	0	1	1	1	1	1	1	1	1	1	2
SUCCESSFUL	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
INCOMPLETE Z/	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	2
UNSUCCESSFUL	3	1	1	0	0	0	0	1	1	1	1	1	1	1	0	0

CY	HIJACKING ATTEMPTS ON U.S. SCHEDULED AIR CARRIER AIRCRAFT											
	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1977
TOTAL	9	17	40	25	25	27	1	5	6	7	5	160
Successful	4	13	32	17	11	8	0	0	0	1	0	87
Incomplete Z/	1	1	4	8	14	1	1	1	1	1	0	35
Unsuccessful	4	3	4	4	4	1	0	7	5	1	2	38

1/ Includes commercial operators engaging in interstate common carriage covered by Code of Federal Regulations Title 14 Part 121.7

Z/ Hijacking in which hijacker is apprehended in flight during hijacking or a result of "hot pursuit"

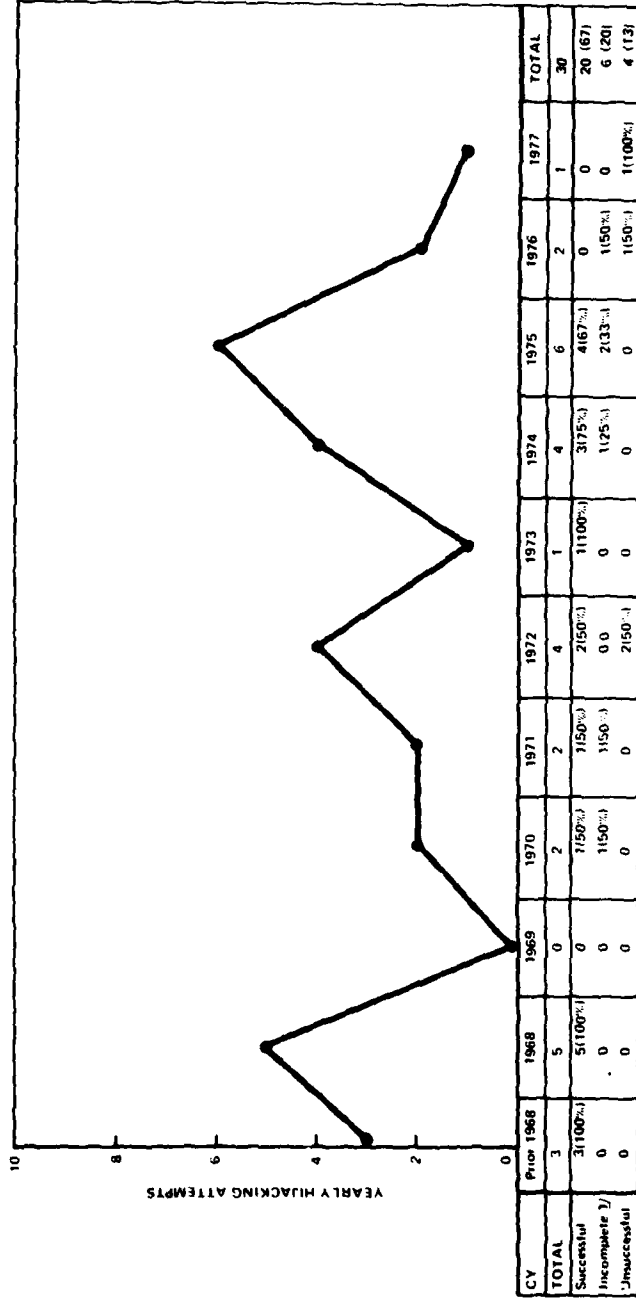
U.S. AIR CARRIER HIJACKING ATTEMPTS SINCE JAN 1 1975											
DATE	AIRLINE/FLY AIRCRAFT	NUMBER ABOARD	ORIGIN	FLIGHT DESTINATION	HIJACKER QUEST/OBJECTIVE	REMARKS					
1/3/75	MA/Nonstop/727	4	Panama City	None	Drugs	Unsuccessful 1 male captured					
1/13/75	E/1/80/737	60	Atlanta GA	Philadelphia PA	San Juan	Unsuccessful 1 male captured					
3/27/75	AO/8/11/Other	2	Hazlett MASS	Newark MASS	New Haven Ct	Unsuccessful 1 male captured					
4/29/75	UA/384/8/727	87	Raleigh NC	Newark NJ	Cuba	Incomplete 1 male captured					
5/15/75	UA/509/8/37	80	Elmora OR	San Fran CA	Detroit	Unsuccessful 1 female captured					
9/15/75	CO/Nonstop/727	5	San Jose CA	None	To escape	Unsuccessful 1 male killed					
9/19/75	TWA/355/8/727	97	New York NY	Chicago	Propaganda	Successful 4 males 1 female captured					
12/21/75	UA/None/DCB	2	San Francisco	None	Unknown	Unsuccessful 1 male captured					
1/11/77	TWA/700/8/747	323	New York NY	London	Upgrade	Unsuccessful 1 male captured					
5/8/77	NW/22/8/747	251	Tokyo	Honolulu	Monaco	Unsuccessful 1 male captured					
8/20/77	WA/1550/8/103	31	San Diego CA	Detroit CO	Mexico	Incomplete 1 male captured					
10/20/77	FAL/1018/737	34	Grand Island NEB	Lincoln, NEB	Release friend from jail	Incomplete 1 male suicide					
12/23/77	FAL/688/DC 9	38	Jacksonville FL	Atlanta GA	Cuba	Incomplete 1 male captured					

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# HIJACKING ATTEMPTS ON U.S. GENERAL AVIATION AIRCRAFT



CY	Prior	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	TOTAL
TOTAL	3	5	0	2	2	4	1	4	6	2	1	30
Successful	3 (100%)	5 (100%)	0	2 (100%)	2 (100%)	4 (100%)	1 (100%)	4 (100%)	6 (100%)	0	0	20 (67)
Incomplete	0	0	0	0	0	0	0	0	0	1 (50%)	0	6 (20)
Unsuccessful	0	0	0	0	0	2 (50%)	0	0	0	1 (50%)	1 (100%)	4 (13)

1/ Hijacking in which hijacker is apprehended/killed during hijacking or as a result of "hot pursuit"

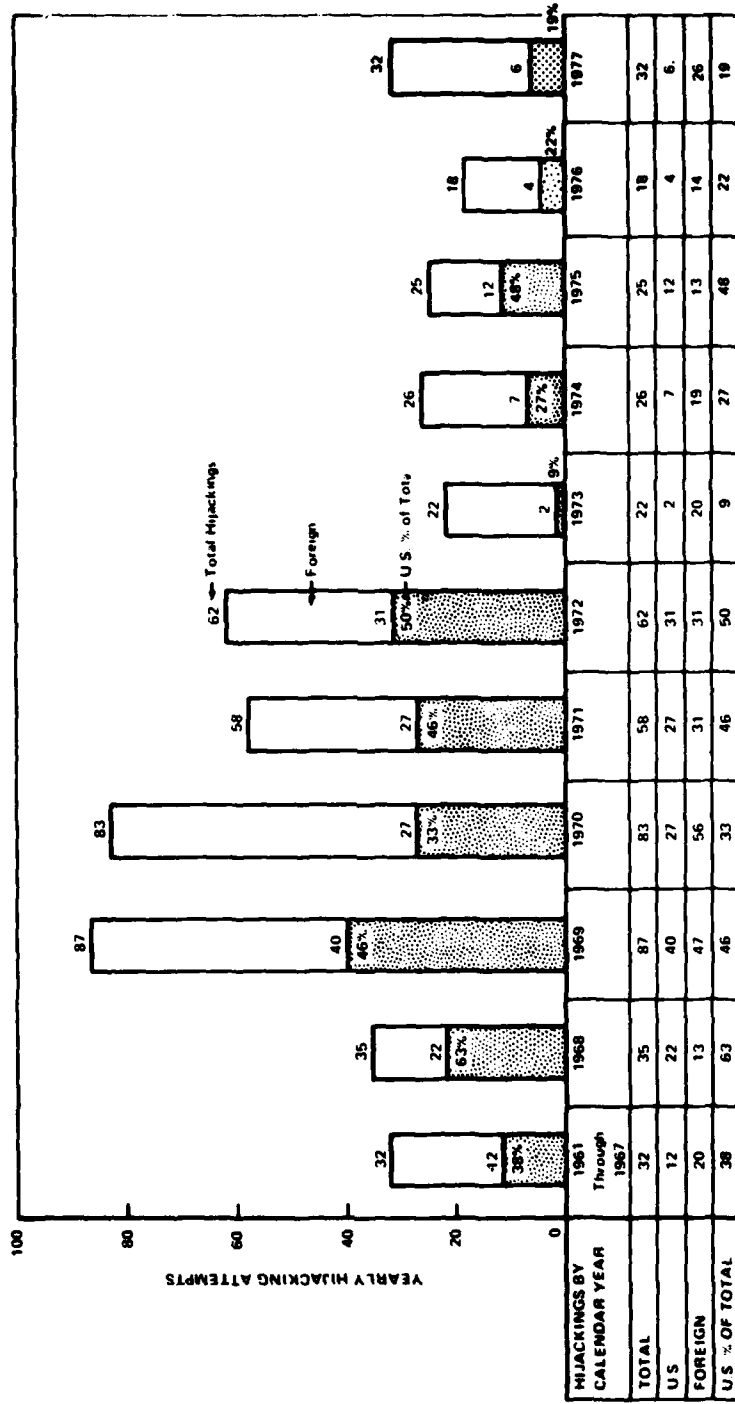
GENERAL AVIATION HIJACKING ATTEMPTS SINCE JANUARY 1, 1975											
DATE	AIRCRAFT	NUMBER PASSENGERS	ORIGIN	DESTINATION	HIJACKER	REMARKS					
3/6/75	Cessna 310	1	Phoenix, AZ	Turkey, AZ	Nogales, Mexico	Successful 2 males captured					
5/10/75	Wheeler	2	Pharmouth, ME	Lynnport, ME	Jackson, ME	Successful 3 males captured					
8/16/75	Piper Cherokee	1	Windsor, VA	None	Jamaica, Puerto Rico	Incomplete 1 male captured					
10/7/75	Cessna 177	4	Greensboro, NC	Atlanta, GA	Florida	Successful 3 males captured					
11/8/75	Cessna 180	2	Franklin, MD	None	South	Incomplete 1 male killed					
11/24/75	Piper Navajo	2	Palomar, CA	Dallas, TX	Mexico	Successful 1 male					
4/18/76	Piper Navajo	3	Grand Island, NE	None	Mexico	Incomplete 1 male killed					
5/11/76	Cessna 210	3	Dixon, IL	Houston, TX	South	Unsuccessful 1 male captured					
1/8/77	Piper Cherokee	4	Statesville, NC	Raleigh, NC	Unknown	Unsuccessful 2 males captured					

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 Source: ACS 20

Department of Transportation  
 Federal Aviation Administration

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# HIJACKING ATTEMPTS ON U.S. AND FOREIGN AIRCRAFT ★



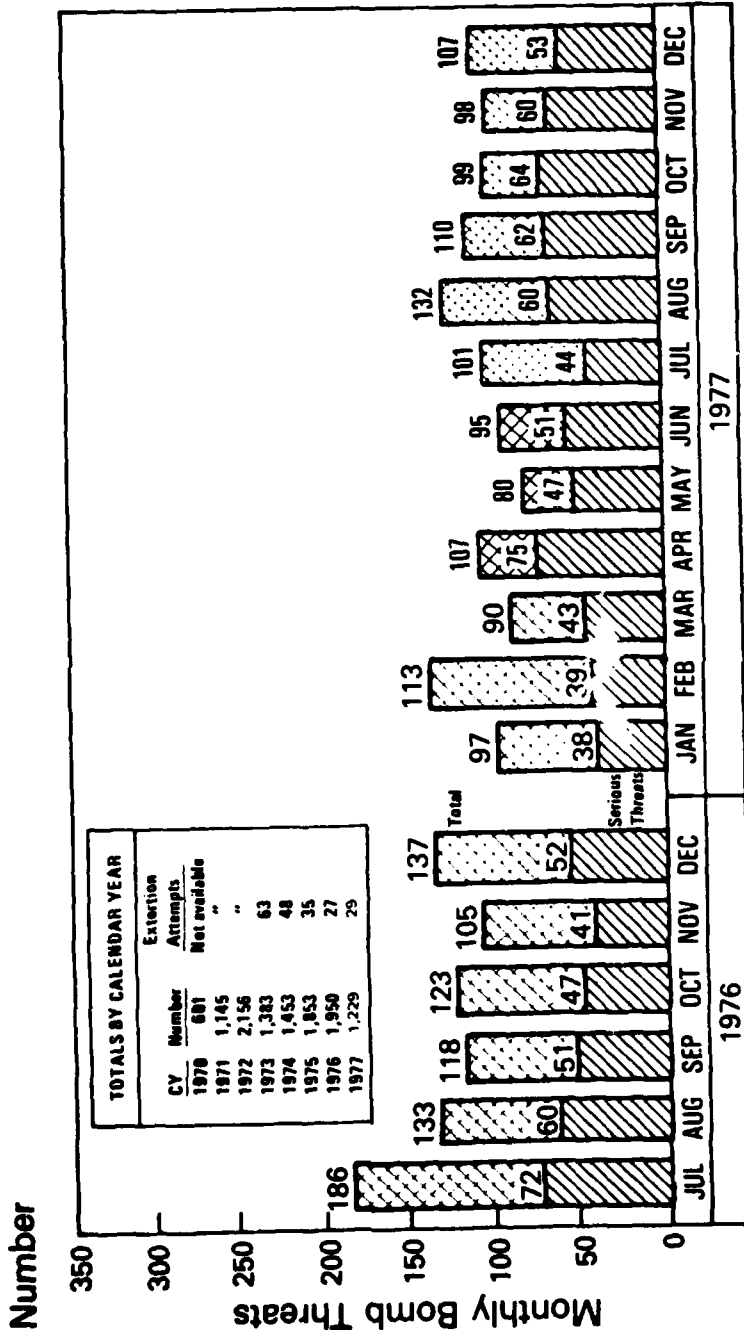
★ Includes General Aviation

Issued: 2/1/78  
 Updated: Monthly  
 As Of: 1/1/78

DEPARTMENT OF TRANSPORTATION  
 Federal Aviation Administration

Updated By: ACS  
 Source: ACS-26

# BOMB THREATS AGAINST U.S. AIRCRAFT AND FOREIGN AIRCRAFT IN THE U.S.



### ANALYSIS

A statement is considered a serious threat if one of the following occurs.

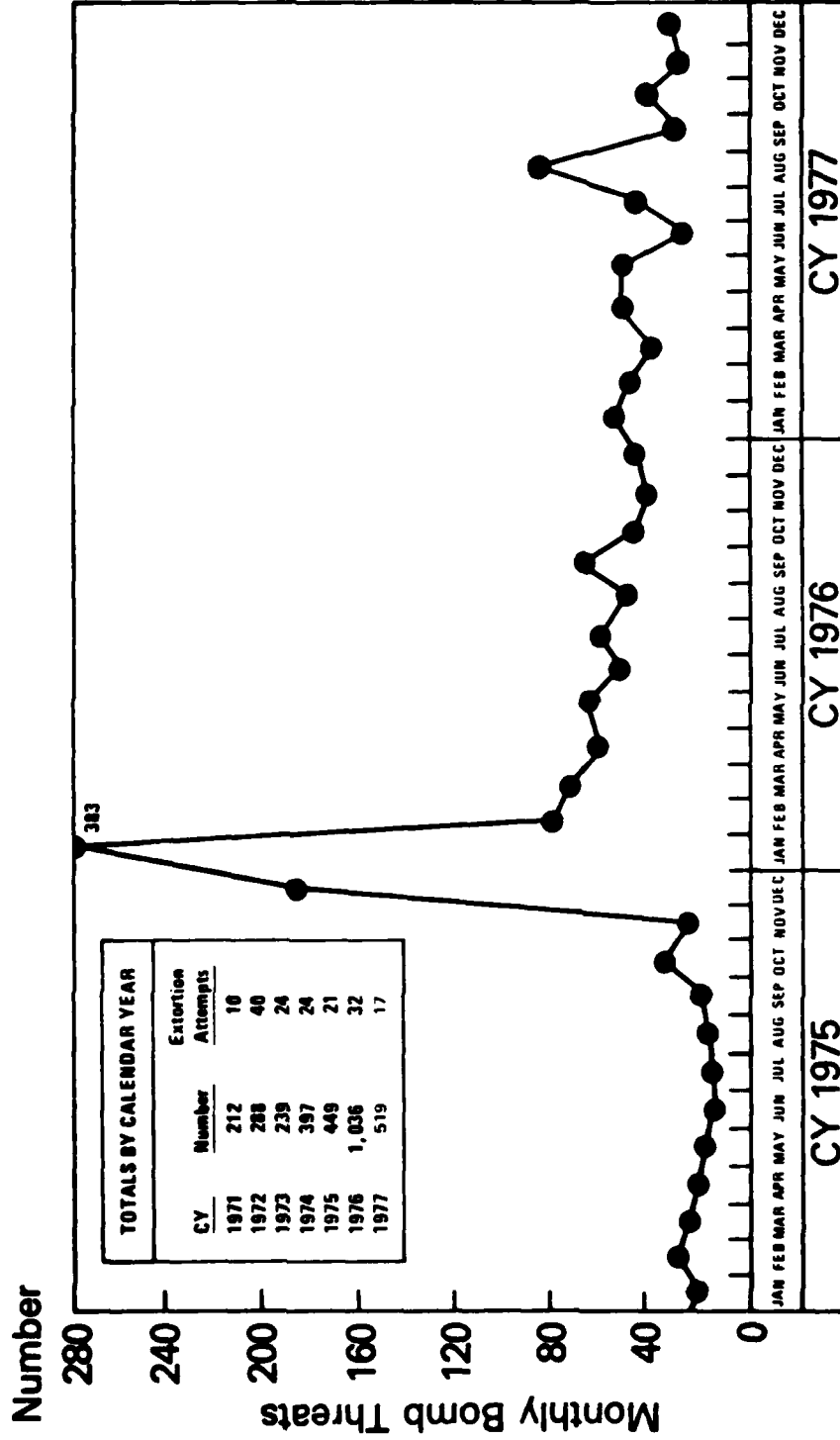
1. It is directed against a particular aircraft or flight.
2. It is not possible to immediately determine if it is made in a joking manner.
3. It results in inconvenience to other passengers.
4. It results in a search or otherwise disrupts airline operations.

DEPARTMENT OF TRANSPORTATION  
Federal Aviation Administration

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**BOMB THREATS AGAINST U.S. AIRPORTS**

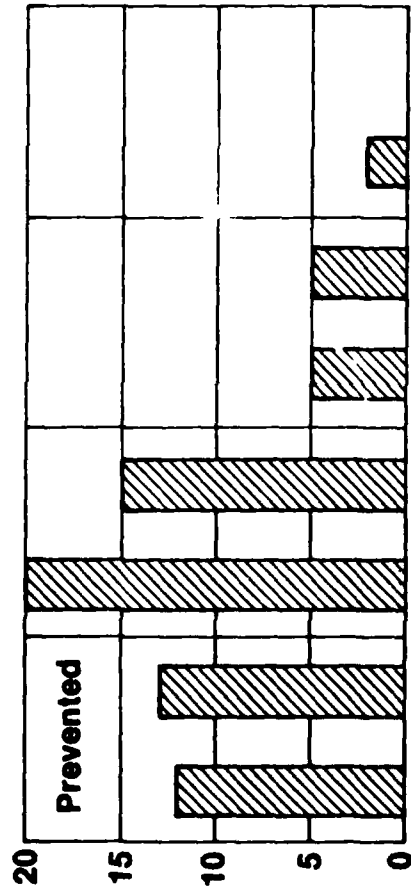
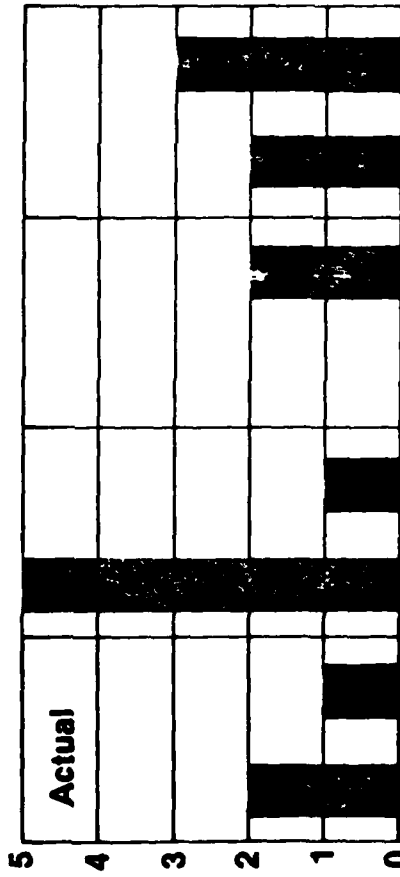


ANALYSIS

The significant increases in threats in December 1975 and January 1976 is the result of an explosion at La Guardia Airport on December 29, 1975.

# PREVENTED ATTEMPTS & ACTUAL HIJACKINGS (U.S. AIR CARRIER AIRCRAFT)

**Prevented Attempts**  
 Incidents in which it appeared the individuals involved intended to hijack an aircraft but were prevented from doing so by security procedures.



Means of Access	Point Of Detection			
	1974	1975	1976	1977
Screening Point	13	22	10	7
Air Operations Area	4	9	1	0
Terminal	4	4	1	0
Other	7	6	0	0

	Weapons Summary							
	1974		1975		1976		1977	
	Alleged	Real	Alleged	Real	Alleged	Real	Alleged	Real
Firearm	2	16	1	22	0	11	1	1
Explosive Device	2	1	0	0	1	0	3	0
Other	0	6	0	13	0	0	0	1

# CIVIL AVIATION SECURITY WEAPON DETECTION DEVICES

<u>Type</u>	<u>Basic Characteristics</u>	<u>Manufacturer</u>	<u>Units</u>
Walk-Thru Active	Creates and Measures Deviations in Own Electric Field. Detects Both Ferrous And Non- Ferrous Metals.	Rens	712
		Infinetics	144
		Metor	94
		Westinghouse	36
		Sperry Rand	36
		Solco	19
		<b>Total</b>	<b>1054</b>
Hand-Held Active	Comparable To Walk- Thru Active Limited Effective Range.	Rens	230
		Federal	250
		Solco	720
		<b>Total</b>	<b>1200</b>

**Total — All Types — 2254**



# **CIVIL AVIATION SECURITY**

## **X-RAY BAGGAGE INSPECTION SYSTEMS**

### **Characteristics:**

Small Dose X-Ray, Intensify Image Electronically, Display on TV

### **Operating Criteria:**

Meet FDA/BRH and State Health Standards Distinguish 24 Gauge Wire

### **Limitations:**

Dependent on Diligence of Operators, Demands Constant Attention and Ability to Quickly Recognize Dangerous Article

### **Systems In Use:**

Astrophysics	220
Phillips Electronic Instruments	93
Bendix	91
American Science & Engineering	53
New Security Concepts	37
Dennis & Miller	32
<b>Total:</b>	<b>526</b>

**CIVIL AVIATION SECURITY**  
**AIRLINE PASSENGER SCREENING RESULTS**  
**1976 - 1977**

	1976		1977	
	Jan—June	July—Dec	Jan—June	July—Dec
<u>Persons Screened (Millions)</u>	191.1	222.5	243.1	265.7
<u>Weapons Detected</u>				
<u>Firearms</u>	2840	1096	874	1160
(1) Handguns	1054	859	745	985
(2) Long Guns	101	35	24	40
(3) Other	1685	202	105	135
Explosive/Incendiary Devices	7	1	2	3
<u>Persons Arrested</u>				
For Carriage of Firearms/Explosives	422	462	370	440
For Giving False Information	119	37	23	21
<u>Other Offenses Detected</u>				
Narcotics	176	156	156	126
Illegal Aliens	382	416	474	483
Other	734	415	151	242

Source — Monthly Reports Of Passenger Screening Activities At U.S. Airports

# CIVIL AVIATION SECURITY

	<u>U.S.</u>	<u>FOREIGN</u>	<u>TOTAL</u>
Carriers	36	72	108
Airports	450	168*	618
Aircraft	2,500	—	—
Flights Per Day	13,600	500	14,100
Passengers Per Day	650,000	35,000	685,000
Carry-On Items Per Day	880,000	50,000	930,000

\* Foreign Airports Served By U.S. Carrier And/Or Final Departure Point For Foreign Carrier Flights To The U.S.

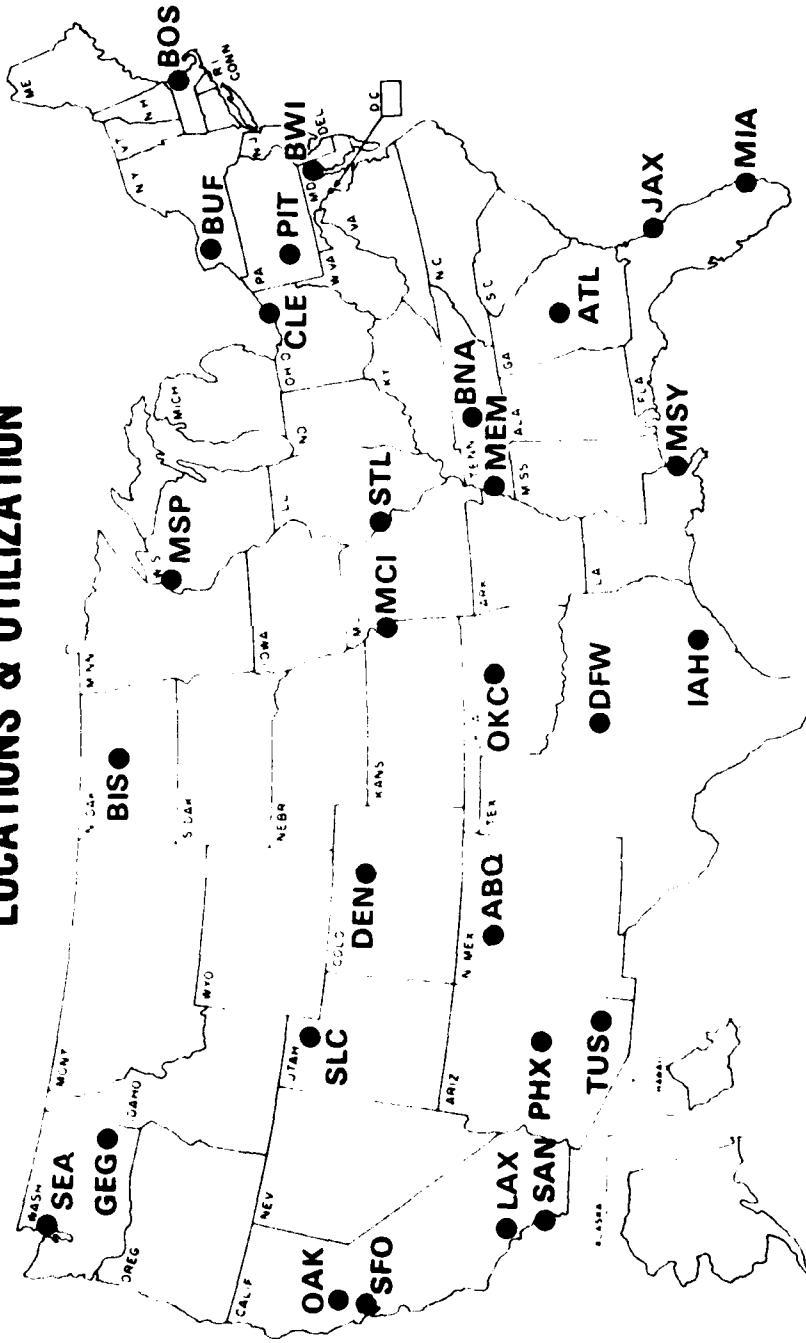
1/1/78

EXHIBIT 12

# CIVIL AVIATION SECURITY BASIC POLICIES

<u>PROGRAM ELEMENT</u>	<u>RESPONSIBILITY</u>	<u>ACTIONS</u>
AIR CARRIERS	SECURE TRAVEL	<ul style="list-style-type: none"><li>• MAINTAIN RESPONSIVE SECURITY PROGRAMS</li><li>• SCREEN PASSENGERS, CARRY-ON ITEMS</li><li>• SECURE BAGGAGE, CARGO PROCEDURES</li><li>• PROTECT AIRCRAFT</li></ul>
AIRPORTS	SECURE OPERATING ENVIRONMENT	<ul style="list-style-type: none"><li>• MAINTAIN RESPONSIVE SECURITY PROGRAMS</li><li>• PROTECT AIR OPERATIONS AREA</li><li>• PROVIDE LAW ENFORCEMENT SUPPORT</li></ul>
FAA	LEADERSHIP	<ul style="list-style-type: none"><li>• IDENTIFY AND ANALYZE THREAT</li><li>• PRESCRIBE SECURITY REQUIREMENTS</li><li>• COORDINATE SECURITY OPERATIONS</li><li>• PROVIDE TECHNICAL ASSISTANCE</li><li>• ENFORCE REGULATIONS</li></ul>
USERS	PROGRAM COSTS	<ul style="list-style-type: none"><li>• SECURITY FUNDED AS OPERATING COST OF SYSTEM</li></ul>

# FAA SPONSORED EXPLOSIVE DETECTION K9 TEAMS LOCATIONS & UTILIZATION



AIRCRAFT & AIRPORT SEARCHES	EXPLOSIVE ITEMS DETECTED	MISSIONS IN LOCAL COMMUNITIES	EXPLOSIVE ITEMS DETECTED	TOTAL EXPLOSIVE ITEMS DETECTED
	2241	22	3153	103
			81	
				AS OF: 1/1/78
				SJU ●

# EXPLOSIVE DETECTION K9 TEAM EFFECTIVENESS

## Average Search Times Required

Aircraft .....	16 Minutes
Terminal Buildings .....	20 Minutes
Vehicles.....	9 Minutes
Cargo Areas .....	18 Minutes
Baggage Areas.....	11 Minutes

Reacted to Explosive Plants — 96.6%  
False Alerts — 8.2%

Source: FY 77 Evaluations.

EXHIBIT 15

**CIVIL AVIATION SECURITY  
RESEARCH AND DEVELOPMENT  
CHECKED BAGGAGE EXPLOSIVE DETECTION**

**X-RAY ABSORPTION**

Prototype Carry-On Baggage System Tested

Two Units Designed For Checked Baggage Being Built

- First Unit Tested Nov 76
- Second Unit Operationally Tested in Dec 1977

**THERMAL NEUTRON ACTIVATION**

Feasibility Demonstration Completed

Prototype Unit Being Designed For Evaluation

**NUCLEAR MAGNETIC RESONANCE**

Technical Feasibility Has Been Demonstrated

Prototype Unit Being Developed For Evaluation

**VAPOR DETECTION**

Transportation Systems Center Has Evaluated All Commercially Available Detectors. Program Underway To Identify Unique Vapors Associated With Different Types Of Explosives.

ACS-200  
1/1/78

EXHIBIT 16

# **CIVIL AVIATION SECURITY FOREIGN TECHNICAL ASSISTANCE**

<u>ACTIONS</u>	<u>COUNTRIES PARTICIPATING</u>
• FAA Technical Assistance Team Visits	20
• Aviation/Law Enforcement Officials Briefings	64
• Training Programs:	
— TSI Course (Students)	(60) (226)
— Antihijacking Tactics	25
— Ground Explosive Procedures	60
— Inflight Explosive Procedures	72
• Analytical Studies Distribution	15

ACS-20  
1/1/78

EXHIBIT 17



# CIVIL AVIATION SECURITY COMPLIANCE AND ENFORCEMENT ACTIONS

U.S. AIR CARRIERS	1973	1974	1975	1976	1977
Warnings	—	—	329	270	276
Letters of Correction	152	124	128	110	109
Non Enforcement Actions	66	36	63	108	61
Civil Penalties (Amount)	43 (\$42,850)	58 (\$75,750)	56 (\$45,300)	84 (\$46,800)	43 (\$66,700)
Investigations Closed	261	218	576	572	489
Investigations Pending					61

## FOREIGN AIR CARRIERS

Warnings	0	0	0	0	0
Letters of Correction	0	12	11	11	11
Non Enforcement Actions	3	2	2	2	2
Civil Penalties (Amount)	0	0	0	0	0
Investigations Closed	3	14	13	13	13
Investigations Pending					2

## AIRPORTS

Warnings Issued	—	—	125	141	137
Letters of Correction	40	68	83	68	53
Non Enforcement Actions	11	14	7	18	23
Civil Penalties (Amount)	1 (\$1,000)	14 (\$6,750)	16 (\$14,450)	19 (\$10,400)	12 (\$3,500)
Investigations Closed	52	96	231	246	225
Investigations Pending					23

## INDIVIDUALS

Administrative Corrections	1	27	81	27	81
Non Enforcement Actions	2	41	24	41	24
Civil Penalties (Amount)	1 (\$25)	1 (\$350)	4 (\$2050)	1 (\$350)	4 (\$2050)
Investigations Closed	4	69	109	69	109
Investigations Pending					14