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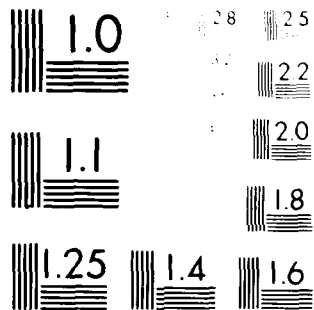
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SEMIANNUAL REPORT TO CONGRESS
ON THE
EFFECTIVENESS OF THE CIVIL AVIATION SECURITY PROGRAM

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JULY 1 - DECEMBER 31, 1980

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
OFFICE OF CIVIL AVIATION SECURITY

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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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U.S. Department
of Transportation

Federal Aviation
Administration

Office of the Administrator

800 Independence Ave. S.W.
Washington, D.C. 20591

April 15, 1981

The Honorable George Bush
President of the Senate
Washington, D.C. 20510

Dear Mr. President:

Enclosed is the Federal Aviation Administration's Semiannual Report to Congress on the Effectiveness of the Civil Aviation Security Program. It covers the period July 1 through December 31, 1980, and is submitted in accordance with Section 315(a) of the Federal Aviation Act.

During this period there were 17 U.S. air carrier hijackings which is more than in any equivalent period since the first half of 1972. Fourteen of the hijackings were perpetrated by Cubans who had entered the United States as refugees earlier in the year. To combat this upsurge of hijackings, a number of additional security measures were instituted. This, coupled with the immediate return by the Cuban government of two men who hijacked an aircraft to Cuba on September 17, seems to have brought hijackings by Cuban refugees under control. No further hijackings occurred during the remainder of 1980 except for one unsuccessful attempt in late October.

Considerable emphasis has been directed in the past several months to insure that aircraft crewmembers and aviation industry representatives are aware of the action expected of them and the common strategy to be employed in aircraft hijacking situations. Other programs have been initiated to improve training, testing, and detection methods and to educate the public regarding aviation security requirements on the carriage of weapons.

Additionally, we recently changed our regulations to include commuter airlines and to allow security requirements to vary with aircraft size and complexity. This change which is expected to become effective in 1981 has the potential to reduce the security costs incurred by airlines and airports.

All of the above actions are aimed toward bringing about in an economical manner the strengthening of vulnerable areas in the overall security program and the prevention of aircraft hijackings and other criminal acts against civil aviation.

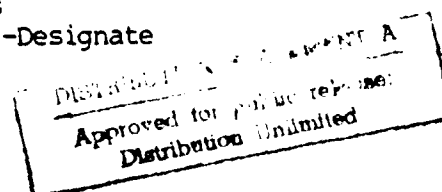
A report has also been sent to the Speaker of the House of Representatives.

Sincerely,


J. Lynn Helms

Administrator-Designate

Enclosure





U.S. Department
of Transportation

Federal Aviation
Administration

Office of the Administrator

800 Independence Ave. SW
Washington, D.C. 20591

April 15, 1981

The Honorable Thomas P. O'Neill, Jr.
Speaker of the House of Representatives
Washington, D.C. 20515

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Sincerely,

J. Lynn Helms
Administrator-Designate

Enclosure

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WASHINGTON, D.C. 20535

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I. EXECUTIVE HIGHLIGHTS

THIS REPORT COVERS THE PERIOD JULY-DECEMBER 1980.

U.S. SECURITY REQUIREMENTS COVER 198 U.S. AND FOREIGN AIRLINES OPERATING OVER 15,000 FLIGHTS DAILY FROM ABOUT 655 U.S. AND FOREIGN AIRPORTS.

ABOUT 295 MILLION PERSONS PROCESSED THROUGH U.S. PASSENGER CHECKPOINTS. 1,020 FIREARMS AND INCENDIARY DEVICES DETECTED. 511 RELATED ARRESTS.

WORLDWIDE, 25 SCHEDULED AIR CARRIER HIJACKINGS OCCURRED (15 SUCCESSFUL). 17 AGAINST U.S. AIRLINES (11 SUCCESSFUL).

THE 17 HIJACKINGS OF U.S. AIR CARRIER AIRCRAFT ARE THE HIGHEST FOR ANY HALF-YEAR PERIOD SINCE JUNE 1972.

CUBAN REFUGEES WERE THE PERPETRATORS OF 14 OF THE 17 U.S. HIJACKINGS.

IN 15 HIJACKINGS THE HIJACKERS CLAIMED TO HAVE EXPLOSIVES OR FLAMMABLE LIQUIDS AND THREATENED TO IGNITE THEM.

IN AUGUST NEW HIJACKING RECORDS WERE SET. 6 IN ONE WEEK AND 3 IN ONE DAY.

WORLDWIDE, 2 GENERAL AVIATION AIRCRAFT HIJACKINGS OCCURRED. NONE AGAINST U.S. AIRCRAFT.

TERRORISM CONTINUES TO THREATEN CIVIL AVIATION. EUROPE, THE MIDDLE EAST, AND CENTRAL AMERICA REMAIN THE AREAS OF GREATEST DANGER. ANTI-CASTRO AND PUERTO RICAN NATIONALIST GROUPS CONTINUE TO POSE THE CHIEF TERRORIST THREAT IN THE U.S.

782 BOMB THREATS AGAINST U.S. AIRCRAFT AND AIRPORTS.

SIGNIFICANT CRIMINAL ACTS AGAINST CIVIL AVIATION WORLDWIDE INCLUDED 27 HIJACKINGS, 24 EXPLOSIONS, AND 6 EXPLOSIVE DEVICES DISCOVERED.

1,187 ALLEGED SECURITY VIOLATIONS BY AIR CARRIERS, AIRPORTS, AND INDIVIDUALS INVESTIGATED. 130 RESULTED IN CIVIL PENALTIES TOTALING \$53,450.

PRINCIPAL GOVERNMENT/INDUSTRY ACTIONS DURING THE REPORTING PERIOD:

WORK CONTINUED ON PROPOSED REGULATION TO ESTABLISH COMMUTER AIR CARRIER SECURITY REQUIREMENTS AT POTENTIALLY REDUCED COSTS.

REGIONAL INCIDENT MANAGEMENT SEMINARS CONDUCTED.

GOVERNMENT/INDUSTRY HIJACKING CRITIQUES AND EXERCISES CONDUCTED.

FEDERAL AIR MARSHALS PROVIDED LAW ENFORCEMENT SUPPORT DURING AIR TRANSPORT OF CUBAN REFUGEES.

INTENSIFIED SECURITY MEASURES IMPLEMENTED TO STOP HIJACKINGS BY CUBAN REFUGEES.

REGULATION ISSUED FOR SUBMISSION OF COMPENSATION CLAIMS FOR REQUIRED SECURITY MEASURES IN FOREIGN AIR TRANSPORTATION.

QUICK RESPONSE LAW ENFORCEMENT PLANS APPROVED AT 22 AIRPORTS.

X-RAY ABSORPTION SYSTEM TO DETECT BOMBS IN CHECKED BAGGAGE UNDERGOING OPERATIONAL TESTING.

RESPONSES TO USE OF LIQUID INCENDIARIES IN HIJACKINGS BEING DEVELOPED.

OTHER RESEARCH AND DEVELOPMENT PROJECTS TO IMPROVE EXPLOSIVE DETECTION CAPABILITIES ON SCHEDULE.

II. INTRODUCTION

This is the 13th Semiannual Report to Congress on the Effectiveness of the U.S. Civil Aviation Security Program. It covers the period July 1-December 31, 1980, and is submitted in accordance with Section 315(a) of the Federal Aviation Act.

III. U.S. AIRCRAFT HIJACKINGS

During this reporting period there were 17 hijackings of U.S. scheduled air carrier aircraft. This is more than during any equivalent period since the first half of 1972. Nine of these hijackings occurred during the month of August. This equals the January 1969 all time record high of number of hijackings during a one-month period. During the week of August 10 through 16 there were 6 hijackings of U.S. scheduled air carrier aircraft. Three of these hijackings occurred on August 16. This concentration of hijackings resulted in the establishment of new records for the number of hijackings during any one week and on any one day. Of the 17 hijackings, 14 were perpetrated by Cubans who had arrived in the United States by boat as refugees during April, May, and June and who desired to return to Cuba.

The total of 21 air carrier hijackings which occurred in 1980 is more than in any year since strengthened U.S. civil aviation security requirements were placed into effect in January 1973. Eleven of the 17 hijackings which occurred in the last half of 1980 were successful. This brings the number of successful hijackings of air carrier aircraft in 1980 to 13. The one general aviation hijacking in 1980 makes a total of 22 aircraft hijacked in 1980. This is 55% of the 40 aircraft hijackings carried out worldwide. This U.S. share of worldwide hijackings is higher than any year since 1968.

While the passenger screening system remains effective, this upsurge in hijacking incidents clearly indicates the system is fallible, and that there is a continued need for constant vigilance at passenger screening checkpoints. To counteract the surge of hijackings special security measures developed by the Federal Aviation Administration (FAA) were implemented. These measures coupled with the immediate return of two hijackers by the Cuban government, have been an effective deterrent to future hijackings by Cuban refugees. As indicated in the below listed summaries of the hijackings during this reporting period, the last three months of 1980 were free of hijackings except for one unsuccessful attempt.

(See Exhibits 1, 2, and 3.)

The following is a brief summary of the 17 U.S. air carrier hijackings which occurred during this reporting period:

- o July 11 - A Northwest Airlines B-727 aircraft was taxiing to take off for a flight from Seattle, Washington to Portland, Oregon, when a man advised the crew that he had a bomb in his briefcase. He demanded \$100,000 and two parachutes. During several hours of negotiation all but two crewmembers were released and the hijacker was convinced that he could not jump from the B-727. He then demanded a small aircraft, but upon learning that the weather was poor, he agreed to accept an automobile. As the hijacker and his two hostages exited the aircraft

toward the automobile, the hijacker was apprehended by agents of the Federal Bureau of Investigation (FBI). He received a sentence of 20 years for kidnapping and extortion which was deferred. He is to receive court supervised mental treatment and vocational training.

- o July 22 - About one hour after leaving Miami, Florida en route to San Juan, Puerto Rico, a male passenger aboard a Delta Air Lines L-1011 aircraft seized a female flight attendant and placed what was reported to be a small handgun at her back. He also claimed to have a knife and a bomb and demanded to be flown to Havana, Cuba. Due to poor weather in Havana, the aircraft was diverted to and landed at Camaguey, Cuba, where the hijacker was taken into custody by Cuban authorities. Details concerning the hijacker's weapons has not as yet been secured from Cuban authorities.
- o August 10-September 17 - During this period there were ten scheduled air carrier aircraft successfully hijacked to Cuba. Three of these incidents occurred on August 16 and one each on August 10, 13, 14, and 26, and September 8, 13, and 17. Delta and Eastern Air Lines aircraft each were the victims of three of the successful hijackings. Air Florida aircraft were hijacked twice during this period: Republic Airlines and Pan American World Airways (formerly National Airlines) aircraft were subjected to one hijacking each. Eight involved scheduled flights to, from, or between Florida airports. The remaining two were a scheduled flight from New Orleans, Louisiana to Atlanta, Georgia, and a flight from Atlanta, Georgia to Columbia, South Carolina. All of these successful hijackings were perpetrated by Cuban males who had arrived in the United States as refugees during the mass exodus from Cuba in April, May, and June. They variously claimed to have explosive devices, incendiary devices or flammable liquids in a variety of containers and threatened to ignite the devices or liquids and burn the aircraft. All were taken into custody by Cuban authorities upon arrival in Cuba. On September 16 the Cuban government announced that Cuba would adopt drastic penal measures against hijackers or return them to the United States for prosecution. The two individuals who hijacked a Delta Air Lines aircraft to Cuba on September 17 were turned over to U.S. law enforcement officials in Havana by Cuban authorities on September 18. They were returned to the United States and have been charged with aircraft piracy.

During this same period there were four other attempted hijackings of air carrier aircraft which were not successful. Three of these were against Eastern Air Lines on August 18, September 12, and 14. The involved flights were from Melbourne, Florida to Atlanta, Georgia; Newark, New Jersey to Miami, Florida; and Tampa to Miami, Florida, respectively. In each of the three cases the lone hijacker demanded to be flown to Cuba.

In two of the three hijackings the hijackers were male Cuban refugees who had arrived in the United States during the April, May and June mass exodus from Cuba. One claimed to have dynamite, but was overpowered by a flight attendant and two passengers. The other Cuban refugee hijacker claimed to have placed a bomb in a public area within the city of Tampa.

The aircraft landed in Miami where the hijacker was taken into custody by police. No bomb was located. Both of these Cuban refugee hijackers have been charged with aircraft piracy. The perpetrator of the third unsuccessful hijacking of an Eastern Air Lines aircraft demanded \$3.4 million, the release of two Federal prisoners and that they all be flown to Cuba. He claimed to have explosives in his checked baggage which could be detonated remotely and explosives wrapped around his legs. He went into a restroom carrying a paper bag indicating it contained a remote control device. After landing he came out of the restroom, gave the paper bag to a flight attendant and was taken into custody by police. The paper bag contained only balloons. He has been charged with aircraft piracy.

The fourth hijacking during this period which was not successful was against a Braniff International aircraft on August 29 in Lima, Peru. A group of 168 Cuban refugees charged aboard the aircraft and demanded to be flown to Miami, Florida. They were told if they force the aircraft to fly to Miami they would be charged with aircraft piracy. They were also told, if they surrendered, they would not be charged and their applications for entry into the United States would be expedited. They accepted these concessions, deplaned, and surrendered. They were returned to refugee camps in Peru.

- o October 25 - When a Continental Air Lines aircraft was about 50 miles Northwest of Miami, Florida en route to Atlanta, Georgia, a Cuban male holding a rolled up newspaper and a cigarette lighter handed a flight attendant a decal with the word "Cuba" written on it. In Spanish he demanded to be flown to Cuba or he would burn the aircraft. He claimed that his brother was also aboard and was armed with a gun. He was overpowered and subdued by the flight crew. The aircraft returned to Miami where the hijacker was taken into custody by the FBI. He has been charged with aircraft piracy and kidnapping.

It is not possible to positively determine the number of incidents in which an aircraft hijacking or other crimes against civil aviation may have been prevented by the security procedures in effect. The FAA has attempted, however, to identify and record incidents in which the circumstances indicate that an individual intended to commit a crime against civil aviation but was prevented from doing so by the security procedures in effect. Seven incidents of this kind occurred during this reporting period. This increases the total number of hijackings or related crimes which may have been prevented since 1973 to 90. The seven incidents are summarized below:

(See Exhibit 4.)

- o August 4 - A weapon inside a carry-on bag was detected by x-ray at a passenger screening point. The owner denied that there was a gun in the bag. The bag was inspected, and a loaded .22 caliber starter pistol was found wrapped in clear plastic inside a cereal box filled with corn flakes. The box had been resealed with clear adhesive tape. The man was unable to explain why the weapon was placed inside the cereal box surrounded by cereal flakes. He was arrested and charged with carrying a concealed weapon.

- August 16 - Four Cuban refugee males traveling together met the hijacker profile. Two successfully cleared the weapon detector and had no carry-on bags. As the other two (later identified as brothers) were being screened, their carry-on bag was checked and found to contain four plastic quart-sized bottles containing gasoline. When questioned, the brothers told of their plan to take control of the aircraft with the help of the two friends by threatening to ignite the gasoline. They intended to demand to be flown to Cuba. The four were taken into Federal custody and charged with attempted air piracy, and conspiracy.
- August 17 - Two Cuban refugee males who met the hijacker profile were subjected to special screening procedures at the passenger screening point. One was found to have a string around his waist which was attached to a beer bottle hidden in his trousers. The bottle was found to contain gasoline. The other man had a pint-sized whiskey bottle containing gasoline in his pocket. Both indicated that they had planned to attempt to hijack an aircraft to Cuba. They were arrested and charged with attempted aircraft piracy, and attempted destruction of commercial aircraft.
- August 30 - A Cuban refugee male who met the hijacker profile was processed and subsequently found to have a starter pistol in his possession. He gave no explanation as to why he was carrying a concealed weapon. He was charged locally with carrying a concealed weapon and carrying a weapon in an airport.
- September 14 - During a physical search of a Cuban refugee male who met the hijacker profile, a bulge in the right abdominal area was observed. The man refused to allow that area to be searched claiming the bulge was due to a recent operation and when the area was touched it caused pain. After he left the office where the search was conducted, a sock containing a plastic bag filled with gasoline was found just outside the office. The individual was located and searched again. No bulge in the abdominal area was noted during this search. He was arrested and charged with attempting to board an aircraft with an incendiary device.
- October 7 - During x-ray examination of a passenger's carry-on luggage a handgun was detected. Physical inspection of the luggage disclosed a .38 caliber automatic pistol covered with aluminum foil, wrapped in a sock, and stuffed in a man's shoe. The man met the hijacker profile, spoke only Spanish, and was ticketed on a flight from Washington, D.C., to Miami, Florida. Further inquiry indicated he had entered the United States illegally. He was charged with possession of a firearm by an illegal alien and sentenced to 60 days in jail (suspended) and 12 months probation.
- October 22 - Intelligence was received which indicated that a 17-year old male, in Fairbanks, Alaska, intended to hijack an aircraft to Russia. That afternoon the young man was apprehended by the police at the airport in Fairbanks. He was carrying a note in which he claimed to have a bomb and demanded an airplane. He also carried a formula for the manufacture of explosives and detailed information concerning various

aircraft. The youth admitted that he had planned to hijack an air carrier aircraft that afternoon. In view of the young man's age and questionable mental condition, prosecution was deferred to local authorities. He pled guilty to a state charge of attempted extortion and was declared a juvenile delinquent. Arrangements were made to transfer him to Ohio, his home state, for such incarceration and treatment as deemed appropriate.

IV. FOREIGN HIJACKINGS

During the last half of 1980, just as in the first half of 1980 and the last half of 1979, there were eight foreign air carrier hijackings. Four were successful. In five cases the hijackers possessed pistols and in one other case the hijackers carried flammable liquid. In one of the cases the weapons were smuggled to the hijackers after they had passed through the screening process. In five of the eight incidents the available information indicates that the weapons were introduced through the normal passenger boarding process and should have been intercepted by effective passenger and carry-on baggage screening procedures. During this reporting period there also were two foreign general aviation aircraft hijacked. One of these hijackings was successful.

(See Exhibit 2.)

V. AIRCRAFT/AIRPORT SABOTAGE

Three significant incidents affecting aircraft or airports involving actual or suspected explosive devices occurred during this period and are summarized below:

(See Exhibit 7.)

- July 14 - Three FAA aviation navigational aid facilities in Puerto Rico were targets of bombings and arson during the early morning hours. The first explosion occurred at approximately 0315 to 0330 hours at the FAA's non-directional radiobeacon at Dorado. Two explosive devices were placed at this facility, however only one detonated and the other malfunctioned. Extensive damage was caused by the blast. A fire which was apparently started in an equipment shack destroyed the FAA very high frequency omnidirectional range radiobeacon (VOR) facility at Ponce. Finally, at approximately 0547 hours, an explosive device detonated at an FAA VOR at Mayaguez causing extensive damage. In all cases the radiobeacon's transmissions were stopped. No injuries were reported. A group calling itself the Organization of Volunteers for the Puerto Rican Revolution sent press releases to two news agencies claiming responsibility for the incidents.
- August 1 - A man telephoned the police and said there was a bomb set to go off in a specific locker at Atlanta International Airport, Atlanta, Georgia. The locker was found to contain a bomb with a letter addressed to Delta Air Lines, Eastern Air Lines, and Atlanta International Airport. The letter criticized the airlines and the airport for their treatment of military personnel, and demanded payment of \$2.5 million and indicated that if the money was not paid a bomb would be exploded later. The bomb was a homemade claymore type device and it was fully assembled with all

the essential elements of an explosive device. It reportedly had only failed to explode due to a malfunction.

In the evening, the same man telephoned the airport police and provided information about another bomb. The police found the second bomb and another extortion note in a locker near the locker where the first bomb was found. This bomb consisted of a military ground burst simulator and a bottle of tear gas. The extortionist made several more calls with instructions for delivery of the money. On August 2, while the extortionist was placing another telephone call, he was arrested by the FBI. He was charged with threatening violence with explosives and extortion.

- September 9 - An explosion occurred in a forward cargo hold area of United Airlines Flight 291, a B-727 aircraft. At the time of the explosion the passengers had deplaned and cargo was being unloaded at Sacramento, California, after a flight from Seattle, Washington via Portland, Oregon. Reportedly, detonation occurred just as a baggage handler touched the package containing the bomb as he was preparing to move it. The explosive device in the package was a pipe bomb attached to a propane gas container. The resulting fire was quickly extinguished and damage to baggage and the aircraft was considered minimal. Two baggage handlers were injured.

VI. BOMB THREATS

During this reporting period threats involving the use of explosives against aircraft and airports increased significantly totaling 782 or almost 18% higher than the 665 experienced during the first half of 1980. However, the total of 1,447 threats received against aircraft and airports in 1980 represents only about a 1% increase over the 1,430 threats received in 1979.

Bomb threats against aircraft totaled 655 during the period. Of these, 400 or 61% were considered serious as defined in Exhibit 5. Of the serious threats 315 or almost 79% were received by telephone. The other 85 serious threats were made visually, in writing, or verbally at screening checkpoints or other locations in the airport. The serious threats caused at least 323 searches and 206 flight delays or diversions, which resulted in disruption of airline operations and inconvenience to passengers. There were 26 U.S. air carriers and 26 foreign air carriers involved in these serious threats. In 10 cases the threats were accompanied by extortion demands. All but a few bomb threats against airports were received under circumstances which made an evaluation as to their seriousness impractical, therefore, no attempt was made to make a distinction of that nature. There were 127 bomb threats received against airports this reporting period. These threats resulted in 90 searches, 16 evacuations of airport facilities, and at least 2 flight delays. In two cases the threats included extortion demands.

(See Exhibits 5, 6, and 7.)

VII. CURRENT THREAT ESTIMATE

Aircraft hijackings and sabotage continue to threaten the lives and property of persons traveling in civil air transportation. The high level of worldwide hijackings and aviation related sabotage incidents continued during this reporting period indicating that effective civil aviation security measures remain necessary. In addition, the significant increase in the number of criminal acts worldwide against civil aviation is further evidence that civil aviation is and continues to be an attractive and dramatic target.

A total of 25 air carrier hijackings occurred worldwide between July and December, 15 were successful. This is more than double the 12 air carrier hijackings which took place during the first six months of 1980, 6 of which were successful. The yearly total of 37 air carrier hijackings is comparable to the high rate of worldwide hijackings which has occurred over the past several years--30 in 1979, 25 in 1978, and 23 in 1977.

Acts of terrorism continue to pose a threat to civil aviation throughout the world. The greatest danger remains in Europe, the Middle East, and Central America. Various terrorist groups in these areas such as the Popular Front for the Liberation of Palestine, the Japanese Red Army, West German radical group - Red Army Faction, the Italian Red Brigade, and the Spanish Basque Separatist continue to maintain a link, an association and cooperation among the groups. This not only enhances but increases their capability to carry out terrorist acts against international targets.

In South America and the Far East terrorist violence continued at a low level except in the Philippines where a number of bombings occurred in protest against martial law mandated by President Marcos.

In the United States, anti-Fidel Castro groups and Puerto Rican Nationalists continue to pose a threat to civil aviation. The low level of violence experienced during the first six months of 1980 came to an end with bombings and assassinations by members of Omega 7, an anti-Castro group. This group has claimed responsibility for the bombing of the Aeroflot Airline office in New York City in which three people were injured; the attempted assassination of a Cuban Ambassador to the United Nations by planting a bomb device in his automobile; the assassination of a Cuban Attache to the United Nations while he was driving his automobile in New York City and the planting of a powerful device outside American Air Ways Charter office in Miami which was described as "big enough to destroy the office and possibly the entire building." American Air Ways Charter offers almost daily charter flights between Miami, Florida and Havana, Cuba.

The Fuerzas Armada de Liberacion Nacional (Armed Forces of National Liberation) (FALN) continued its violence with the bombings at the Pennsylvania Station in downtown New York, New York, claiming the blasts were in retaliation for U.S. activities in Puerto Rico and U.S. plans to send Cuban and Haitian refugees to the island. The recent conviction on state charges in Illinois and sentencing of 11 FALN leaders and members has not kept this group from carrying

out its acts of violence against the United States as evidenced by the Pennsylvania Station bombing cited above.

Cuban refugees in the United States continue to pose a threat to civil aviation. Fourteen of the hijack attempts which occurred from mid-July through October were perpetrated by individuals who had entered the United States as Cuban refugees during the mass exodus from Cuba in April, May, and June. Alleged bombs and flammable materials (gasoline and chemicals) in various types of bottles were used as weapons to divert flights to Cuba. Added special security measures and the return to the United States of two Cuban refugee hijackers for prosecution helped to deter further hijacking attempts by Cuban refugees.

Croatian and Serbian groups in the United States also continue to be of concern. Members of these groups have participated in terrorist bombings, killings, extortions, and have perpetrated two U.S. air carrier hijackings.

While the threat of hijacking persists, acts of sabotage and other criminal acts continue to pose a serious and increasing threat to civil aviation. A total of 57 criminal acts occurred during the period which resulted in 2 deaths and 55 injuries. Twenty-seven of these incidents were hijackings (25 air carrier and 2 general aviation); 24 were explosions (1 aboard an aircraft, 3 at an FAA navigational facility, 5 at airports, and 15 at airline offices); and 6 incidents involving explosive devices found (4 at airports and 2 at airline offices). Four incidents (3 hijackings and 1 explosion aboard an aircraft) occurred in the United States, which resulted in injury to 7 persons.

Since 1974, worldwide criminal acts against civil aviation have resulted in 761 deaths and 791 injuries, with 116 deaths and 136 injuries involving U.S. civil aviation.

(See Exhibits 1, 2, 7, and 8.)

VIII. PASSENGER SCREENING

Since the institution of the 100% screening of air carrier passengers in January 1973 there have been 57 hijackings of U.S. air carrier aircraft. Although 21 of these hijackings occurred in 1980, the average over the 8-year period is approximately 7. This is considerably lower than the annual average of 27 experienced during the five years immediately preceding the initiation of required passenger screening procedures in 1973. Since the strengthening of security measures in 1973, over 3 billion persons have been screened and over 4.5 billion pieces of carry-on items have been inspected for almost 42 million flights. In addition, during the 8-year period over 21,000 firearms have been detected resulting in over 8,000 arrests.

(See Exhibits 1 and 9.)

During the last six months of 1980 approximately 295 million persons were processed through screening checkpoints at the nation's 390 airports where passenger screening is conducted. A total of 1,020 firearms were detected during this period. This is less than 2% lower than the average of 1,036 firearms detected during the preceding seven reporting periods. Of the 1,020

firearms detected 924 or over 90% were discovered through x-ray inspection of carry-on items, 70 or about 7% were detected through the screening of individuals by weapons detectors, and 26 or about 3% by physical search. Seven incendiary devices were also detected during this period, 4 by x-ray and 3 by weapons detector.

There were 511 persons arrested at screening points for carriage of firearms and incendiary devices during this period. This represents an approximate 2% decrease from the 520 arrests which occurred during the first half of 1980 and an approximate 9% increase over the average of 469 arrests for the preceding seven reporting periods. The 511 arrests involved some 32 U.S. airlines at 85 U.S. airports. At 27 large hub airports (e.g., Los Angeles, California, and Atlanta, Georgia) 299 (59%) of the arrests took place. Twenty-eight medium hub airports (e.g., Memphis, Tennessee, and Birmingham, Alabama) accounted for 138 (27%). The remaining 74, arrests or 14% of the total, occurred at 30 small and non-hub airports (e.g., Shreveport, Louisiana, and Corpus Christi, Texas). In 107 or 21% of the 511 arrests the individuals involved were fined, placed in confinement, and/or placed on probation. Charges were dropped or dismissed in 76 (15%) of the cases and action in the remaining 328 (64%) is still pending. Of the 183 cases which have been settled, 58% (the 107 cases cited above) have resulted in fines, confinement, or other disciplinary action.

For calendar year 1980 a total of 2,022 firearms were detected. This is 139 or 16% fewer than the 2,161 detected in 1979. Also during the calendar year the number of persons arrested totaled 1,031, which is 29 or 3% fewer than the 1,060 arrested in 1979. The ratio of persons arrested to firearms detected remained almost consistent at about 51% for 1980 compared to 49% for 1979.

(See Exhibit 10.)

Screening checkpoint equipment consists primarily of walk-through weapons detectors for individuals and, at high volume stations, x-ray inspection systems for carry-on items. Walk-through weapons detectors currently in use total 1,311 and x-ray baggage inspection systems number 721. In addition, 1,200 handheld devices are in place to back up the walk-through detectors.

(See Exhibits 11 and 12.)

IX. CIVIL AVIATION SECURITY ACTIONS

Operating on the concept of sharing responsibilities among airlines, airports, local communities, the Federal Government, and the aircraft passengers the U.S. Civil Aviation Security Program has continued to be highly effective in preventing aircraft hijackings and other criminal acts against civil aviation. The spirit of cooperation which characterizes these mutually beneficial working relationship has been very helpful in making the system work well. This program currently involves 198 U.S. and foreign airlines operating approximately 15,425 scheduled passenger flights each day to and from about 655 U.S. and foreign airports. In support of these operations approximately 1.7 million persons with about 1.8 million pieces of carry-on items were processed through the screening system daily. The airline and airport security measures developed continue to provide increased safety for airline passengers and crews along with security for aircraft and airports.

(See Exhibit 13 and 14.)

Aircraft Security - Significant actions taken to improve aircraft security during the second half of 1980 included finalization of proposed security regulations concerning air taxi/commercial operators, conduct of regional incident management seminars, hijacking critiques and hijacking exercises, utilization of FAA Federal Air Marshals during air transport of Cuban refugees, and intensification of security measures to thwart hijackings by Cuban refugees. In addition a Special Federal Aviation Regulation (SFAR) was issued to allow air carriers to receive federal compensation for costs of security measures in foreign air transportation. The following is a summary of these actions:

- Proposed FAR Part 108 - Air Taxi/Commercial Operator - A detailed economic impact study was completed which indicated that the earlier FAA estimated costs provided in Notice of Proposed Rulemaking Number 79-17 were generally accurate when considered against total enplanements. However, when considered for a particular airport, or a particular flight, costs may be unusually high because of limited enplanements at that airport or for that flight. Based upon the economic analysis as well as comments from industry and the public, the regulation is being modified to accommodate less costly requirements without degrading the level of security necessary to protect the public's interest.
- Regional Incident Management Seminars - The FAA/FBI completed its jointly sponsored hijacking incident management seminars which were presented at 13 major population centers throughout the United States. These seminars, attended by over 2,000 representatives of the air transportation industry, were widely acclaimed by the industry for their success in providing participants a clear understanding of the Government/industry "common strategy" in the management of hijacking incidents.
- Joint Government/Industry Hijacking Critiques - The FAA has continued its effort to assure the security of the air traveling public through a hijacking critique program participated in by the FBI, the airlines, and others involved in aircraft hijackings. This program is designed to encourage candid examination by Government and industry representatives of actual hijacking incidents from their beginning to their conclusion. These critiques are being held with the air carriers directly involved and with other Government agencies and industry elements that have specific concerns and responsibilities for hijacking management. A critique was held at FAA Headquarters on October 21, to review the hijacking of Northwest Flight 608 on July 11, Delta Flight 1135 on July 22, and Eastern Flight 348 on August 18, as well as the 12 hijackings by "homesick" Cuban refugees spanning the period from August 10 through September 17. These critiques, which emphasize total cooperation by all involved parties, have proven to be highly beneficial in contributing to improvement of techniques and a better understanding of the many complexities associated with hijacking incident management.
- Joint Government/Industry Hijack Exercises - The FAA and FBI have taken the initiative to regionally conduct hijacking exercises with other Government agencies and aviation industry personnel to test the "common

strategy" and the basic procedures established to support it. To date, exercises have been conducted in Cincinnati, Ohio; Dallas-Fort Worth, Texas; Cleveland, Ohio; and Norfolk, Virginia. These exercises have proven to be very beneficial to all participants and have contributed to an overall enhancement of the concept and the procedures designed to assure aviation safety and a successful conclusion of actual hijack incidents. Additional exercises will be conducted at various airports throughout the United States to further assure the understanding of the "common strategy" and the success of the concept.

- o Federal Air Marshal Utilization - Between September 25 and October 9, Federal Air Marshals were again utilized to assist the Cuban/Haitian Task Force in the airlift consolidation of approximately 10,000 Cuban refugees to the resettlement center at Fort Chaffee, Arkansas. The consolidation involved the movement of Cubans from three other resettlement centers which were scheduled to close. The mission was accomplished without incident.
- o Intensified Security to Thwart Cuban Refugee Hijackings - In August, with the onset of a rash of air carrier hijackings, the FAA, FBI, airport operators, the aviation industry, and local law enforcement agencies initiated an intensified cooperative aviation security effort. This, coupled with the immediate return to U.S. authorities of two male Cuban hijackers by the Cuban Government, brought hijackings by Cuban refugees under control. The action taken by the Cuban Government was widely publicized in Cuban refugee resettlement areas through news media support of efforts to curb hijackings by these refugees.
- o Compensation for Required Security Measures in Foreign Air Transportation The FAA issued SFAR Number 34 which became effective on August 27. This SFAR adopts a procedure for compensating air carriers who have incurred nonreimbursable costs for screening passengers and their carry-on baggage moving in foreign air transportation. The purpose of this regulation is to implement the direction of Congress requiring that the Secretary of Transportation provide appropriate compensation in this area. The cutoff date for filing claims is June 30, 1981. Two claims have been filed. One was filed by Pan American World Airways and one by Trans World Airlines.

Airport Security - In 16 of the 17 hijackings which occurred during this reporting period the hijackers boarded at airports within the United States or Puerto Rico. None of these 16 hijackings resulted from insufficient airport security measures or a breakdown in the FAA-approved airport security programs. While it is recognized that public airports in the United States realistically cannot be tightly secured in the manner of a military facility and still satisfy essential transportation needs, cooperation between all segments of the aviation industry and the FAA has resulted in continual improvements in their security posture. Some of the programs which have contributed to the success of this

effort are the continuous training via classes and seminars of law enforcement officers and others directly involved in aviation security, implementation of quick response law enforcement provisions at certain airports, and the explosive detection K-9 team program. The following is a summary of these activities:

- o Civil Aviation Security Training - The formal classroom training primarily designed for local law enforcement officers assigned to support airline and airport security programs is conducted at the Transportation Safety Institute in Oklahoma City, Oklahoma. The course provides in-depth coverage of civil aviation security requirements, procedures, and techniques. As of December 31, a total of 103 classes have been conducted for 2,399 students, including 1,717 local law enforcement officers, 331 foreign students, 283 FAA employees, and 68 others including representatives of other U.S. government agencies and aviation industry officials. In addition to the formal classes at Oklahoma City, special 2-day seminars, attended by 2,416 persons, have been conducted at 31 airports throughout the nation.
- o Law Enforcement Quick Response Proposals - Experience has shown that at certain airports and occasionally only at specified points within these airports, the law enforcement presence required by law can prove to be more effective if the officers are permitted to patrol in designated areas instead of remaining in fixed positions at passenger screening points. An airport desiring to implement this concept must develop a proposal which is submitted to FAA for review. If the agency finds that the proposal will result in enhanced security at the airport, the proposal is approved. Thus far, all approved proposals have included adoption of new procedures and improved communications equipment which assures that designated officers can respond quickly to the screening checkpoints. As of the end of 1980 the quick response law enforcement concept has been approved for implementation in selected areas at 22 airports.
- o Explosive Detection Dog Teams - The FAA, in cooperation with the Law Enforcement Assistance Administration (LEAA), has sponsored a program to strategically locate U.S. Air Force trained explosive detection K-9 teams in key cities near major airports. One dog and a handler constitute a team. The teams are positioned so that this emergency support will be readily available to threatened aircraft flying over the United States within half-hour flight time. Currently, 28 airports can provide this emergency K-9 team explosive detection support. To date, in actual explosive detection missions, the teams have detected 31 explosive items in the course of 5,204 aircraft and airport searches. In addition, they have conducted 5,747 explosive searches in their local communities, detecting 134 additional explosive items.

(See Exhibit 15.)

Research and Development - The FAA has a comprehensive research and development program to develop methods and techniques to find explosives in passengers' checked baggage, in air cargo, and being carried by individuals. Research is also being conducted to develop a proper response to the use of liquid

incendiaries by hijackers. The following is the current status of the ongoing research and development efforts:

- o X-Ray Absorption - This concept is based on an automatic computer-based analysis of the size, shape, and x-ray density of checked baggage contents. An operational test of this technique at Newark International Airport, Newark, New Jersey, demonstrated sufficient detection capabilities to warrant further development. As a result, the two existing detectors have been modified for operational use. One has been installed in a baggage make-up area at Dulles International Airport, Washington, D.C. In July 1980, a one-year operational evaluation commenced to determine the ability of this equipment to process checked baggage in a real world environment and to assess its efficiency in detecting the explosives of interest. To date, only minor mechanical difficulties have been experienced in the operation of the system. All of these have been corrected expeditiously. Valuable operational experience in the use of this system is being obtained and plans are being developed to place the system at various locations within the airport to assure varied operational experience. At the same time, the second detector which has been delivered to the FAA Technical Center, Atlantic City, New Jersey, will be used over the next two years to test advanced computer programming techniques to enhance detection performance. This is the culmination of eight years of research and development and is the first system of its type available anywhere in the world.
- o Thermal Neutron Activation - The technical feasibility of this concept, the identification of explosives by means of a reaction which is unique to specific explosive materials, has been demonstrated. A portable system has been constructed which allows testing at different airports. Thus far, testing has been conducted at Greater Pittsburgh International Airport, Pittsburgh, Pennsylvania, and Logan International Airport, Boston, Massachusetts. Analysis of the test data indicates that the system shows promise in processing air cargo. A more detailed airport testing program involving air cargo is being developed and is expected to be implemented during the summer 1981.
- o Nuclear Magnetic Resonance - The system relies on the detection of a characteristic response of explosive molecules when they are subjected to magnetic and pulsed radio frequency fields. After a scale model of the system was constructed and the feasibility of this concept demonstrated, an airport evaluation to gather research and development data and to determine operating characteristics was conducted in the spring of 1979. An additional evaluation was conducted at Dallas-Fort Worth Regional Airport, Dallas, Texas, and analysis of this data showed that this system has great promise. As a result, the laboratory model will be converted into an operational system. It is expected that the system will be ready for operational test and evaluation by the summer of 1982.
- o Use of Small Animals to Detect Explosives - A contract was awarded to the Philadelphia Medical Research Wing of the Veterans Administration, to

determine the potential of small animals (e.g., gerbils and rats) in detecting explosives. It has been determined that these animals can be trained to detect an odor and perform a specific function. Testing is progressing to determine the specificity and sensitivity of these mammals. The contract is expected to be completed by the fall of 1981.

- o Walk-by Explosive Detector - A program has been initiated by the Transportation Systems Center of the Department of Transportation to develop equipment which will detect explosives being carried by individuals. An unsuccessful attempt was made several years ago to develop a similar system. This new effort is being undertaken in view of the recent improvements in technology with regard to vapor collection and sampling. Success in this area would significantly contribute to the development of a complete explosive detection system covering all methods of placing explosives aboard aircraft. The current schedule calls for a device to be ready for laboratory evaluation by the summer of 1981.
- o Research Concerning Emergency Response to the Use of Liquid Incendiaries in Hijackings - On August 13, seven Spanish-speaking hijackers were flown to Cuba after threatening to ignite the gasoline they carried. This incident and several similar incidents which followed resulted in inquiries from the aviation industry and government agencies regarding the effects of such hijackings should the gasoline be ignited. Initially the threat of a gasoline vapor explosion was thought to be the primary hazard followed by a fire but there was no empirical data available to confirm or deny this belief. On August 19, the FAA Technical Center began a series of 20 tests to define the problem and to develop the necessary solutions. The results of these tests indicated that fire was the primary hazard and that the fire extinguishers on board aircraft appear to provide marginal capability for extinguishing this type of fuel-fed fire in the cabin of an aircraft. These test also provided a basis for the issuance of an FAA General Notice No. 800.212 on November 29 which recommended a change in on board fire extinguishers.

(See Exhibit 16.)

International Activities - Progress continues to be made in increasing the participation of other countries in programs designed to prevent or deter criminal acts against civil aviation. Most nations now have civil aviation security procedures and are active in programs aimed toward the improvement of the overall security of civil aviation.

The following are some of the significant activities and accomplishments to promote and improve international civil aviation security which occurred in the second half of 1980:

- o International Federal of Airline Pilots Association's Annual Security Symposium - In September FAA civil aviation security representatives attended this symposium in Copenhagen, Denmark to present the U.S. policies and procedures for handling hijackings. The newly developed flight crew training aids were previewed for the first time before an international audience. Participants included government officials from 6 major countries of Western Europe and pilots representing airlines of 21 countries.

- European Civil Aviation Conference (ECAC) - An FAA representative participated in the ninth annual meeting of the ECAC Working Group on Security Problems held in Paris, France in October. The discussions at the meeting centered on a general review of civil aviation security programs currently in operation and a wide range of recommended actions intended to improve the overall security of civil aviation. The meeting was attended by representatives of 17 nations and 4 international aviation oriented organizations.
- Improvement in U.S. and Cuban Relations Regarding Civil Aviation Security FAA civil aviation security representatives traveled to Havana, Cuba, in October to meet with Cuban aviation security officials. A series of discussions were held with the Cuban Government's Director of Aviation Security and other officials. These discussions focused on civil aviation security matters of mutual concern and interest to both the United States and Cuba. Agreements were reached in several areas which should improve communication and cooperation between the two countries during aircraft hijackings and other aviation security emergencies. Following these sessions, Cuban aviation security officials accepted an invitation extended by FAA to visit the agency's headquarters in Washington, D.C. The purpose of the meeting in Washington, planned for January 1981, is to continue and expand on the discussions initiated in Havana.
- Hijackers Among U.S. Citizens Released from Cuban Prisons - During October, 30 of the 38 U.S. citizens released from prison by the Cuban government returned to the United States. Five of the returnees were arrested upon arrival. Four of these were aircraft hijackers. The four have been charged with aircraft piracy and prosecutive action has been initiated. Two other aircraft hijackers are known to have been in the group released from prison but they reportedly chose not to return to the United States. It is expected that they will remain in Cuba for an extended period.
- Meetings with Peoples Republic of China Representatives - A civil aviation security representative traveled to Peking, China, in November as a part of an official FAA delegation. The purpose of this visit was to conduct onsite meetings with representatives of the General Administration of the Civil Aviation of China (CAAC) and the Peoples Republic of China regarding the opening of scheduled air carrier service by Pan American World Airways and CAAC from China to the United States. All parties demonstrated an attitude of cooperation and a desire to resolve problem areas expeditiously. The Chinese authorities were provided training aids on aviation security matters, information pertaining to the preparation of standard security programs, and copies of appropriate Federal Aviation Regulations pertaining to security. Close cooperation with the Peoples Republic of China representatives on civil aviation security matters is expected to continue.

- International Criminal Police Organization (INTERPOL) - In November the 49th General Assembly Session of INTERPOL was held in Manila, Philippines. The U.S. delegation presented a paper prepared by FAA covering bomb threat evaluation and response. The paper generated serious and lengthy discussion among the representatives of the various delegations. The FAA's intent was to focus attention on a real world problem and to emphasize the impact on civil aviation safety. Representatives of 126 nations attended the conference.
- Foreign Technical Assistance - FAA has continued its bilateral technical assistance program and exchange of information on a government-to-government basis. FAA technical assistance security teams may visit foreign nations and conduct evaluations of security systems, provide training in security procedures, and provide assistance in assessment of technical security requirements. Additional assistance is provided through briefings of foreign officials on civil aviation security matters, through training programs offered at the Transportation Safety Institute, and through the distribution of analytical studies and training aids relating to civil aviation security. Funding by the Law Enforcement Assistance Administration of formalized training and visits of security teams to requesting countries was discontinued at the end of fiscal year 1980. Technical assistance in this area has been sharply curtailed due to this loss of funds.

(See Exhibit 17.)

X. COMPLIANCE AND ENFORCEMENT

During this reporting period, 1,187 investigations of alleged security violations by air carriers, airports, and individuals were completed. In 130 of the 1,187 cases, civil penalties totaling \$53,450 were collected and in 933 cases administrative corrective action was taken. In the remaining 124 cases, the alleged violations were not substantiated. The figures for this reporting period represent only a slight difference over the number of cases closed during the previous reporting period; however, the 1980 full year figures are significantly higher than for calendar year 1979. The bulk of this increase in the overall total of enforcement actions is due primarily to the 1980 figures reflecting a full year of implementation of FAR Part 107, Airport Security, which was amended in March 1979 to include a provision prohibiting the unauthorized carriage of firearms, explosives, or incendiary devices through passenger screening checkpoints. In calendar year 1979, 677 such cases were completed and, in calendar year 1980, 1,703 such cases were completed.

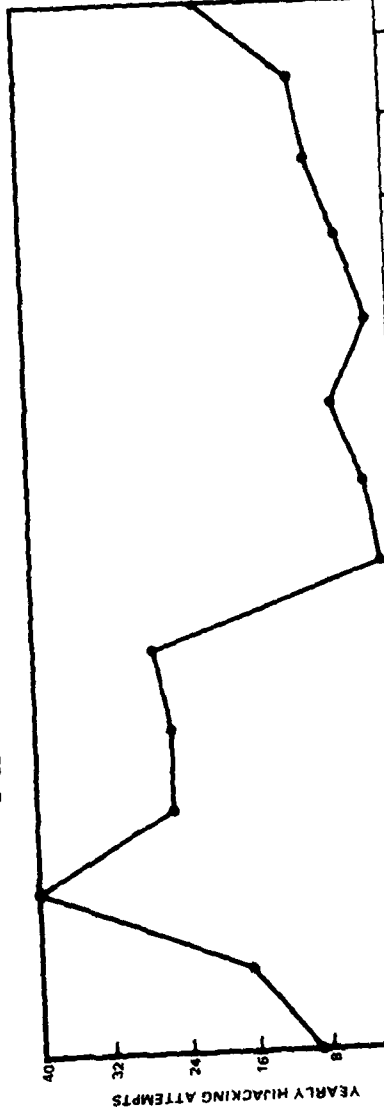
(See Exhibit 18.)

XI. OUTLOOK

While incidents of aircraft piracy in 1980 reached a record high for the years since 1972, the cause of the great increase is being dealt with effectively and no resurgence is anticipated. Terrorist acts are expected to continue at a high rate throughout the world especially in Europe, the Middle East, and Central America. Because of this and the attractiveness and vulnerability of air transportation to attacks by criminals and other disgruntled or demented individuals it is expected that incidents of aircraft piracy will continue with a frequency approximately equivalent to that experienced in 1979.



Hijacking Attempts on U.S. Scheduled Air Carrier Aircraft



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

2) Hijacking in which hijacker is apprehended, killed during hijacking or a result of "hot pursuit"

HIJACKING BY YEAR	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	TOTALS
TOTAL	9	16	40	25	25	27	1	3	6	2	5	8	11	21	199
SUCCESSFUL	4	12	33	17	11	8	0	0	0	1	0	0	4	13	103
INCOMPLETE	1	1	1	4	8	14	1	1	1	0	3	4	5	3	47
UNSUCCESSFUL	4	3	6	4	6	5	0	2	5	1	2	4	2	5	49

U.S. AIR CARRIER HIJACKING ATTEMPTS SINCE JAN. 1, 1960

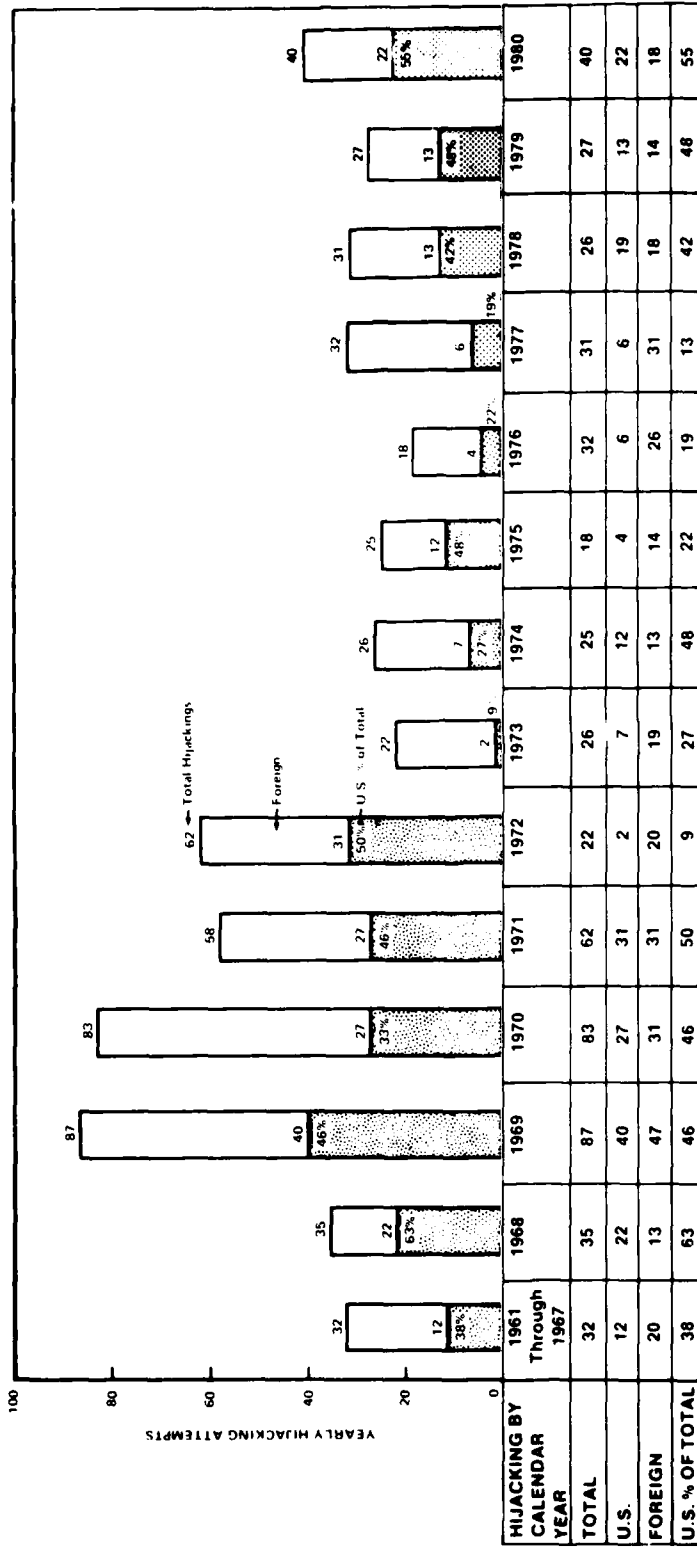
As of: 1/1/81

DATE 1980	AIRLINE FLT AIRCRAFT	NUMBER ABOARD	HIJACKER BOARDING POINT	HIJACKER LAST OBJECTIVE	DATE 1980	AIRLINE FLT AIRCRAFT	NUMBER ABOARD	HIJACKER BOARDING POINT	HIJACKER LAST OBJECTIVE
1-25-80	DL 1136 L 1011	83	Atlanta, GA	Cuba	8-29-80	QW 707 B 737	74	Key West, FL	Marine FL
4-09-80	AA 368 B 727	8	Ontario, CA	Cuba	8-14-80	NW 812 DC 10	224	Miami, FL	Cuba
4-14-80	CO 111 B 727	78	Denver, CO	Lebanon	8-16-80	EA 360 B 727	53	Miami, FL	Cuba
5-01-80	PS 818 B 727	9	Stockton, CA	Iran	8-16-80	RE 228 DC 9	116	Miami, FL	Cuba
7-11-80	AAW 828 B 727	64	Seattle, WA	\$100,000 Arrang. by Pan Am	8-16-80	DL 1065 L 1011	193	San Juan, PR	Cuba
7-22-80	DL 1136 L 1011	158	Miami, FL	Cuba	8-18-80	EA 368 DC 9	58	Miami, FL	Cuba
8-10-80	QW 418 B 737	36	Miami, FL	Cuba	8-26-80	EA 401 L 1011	240	New York, NY	Cuba



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Hijacking Attempts on U.S. and Foreign Aircraft*



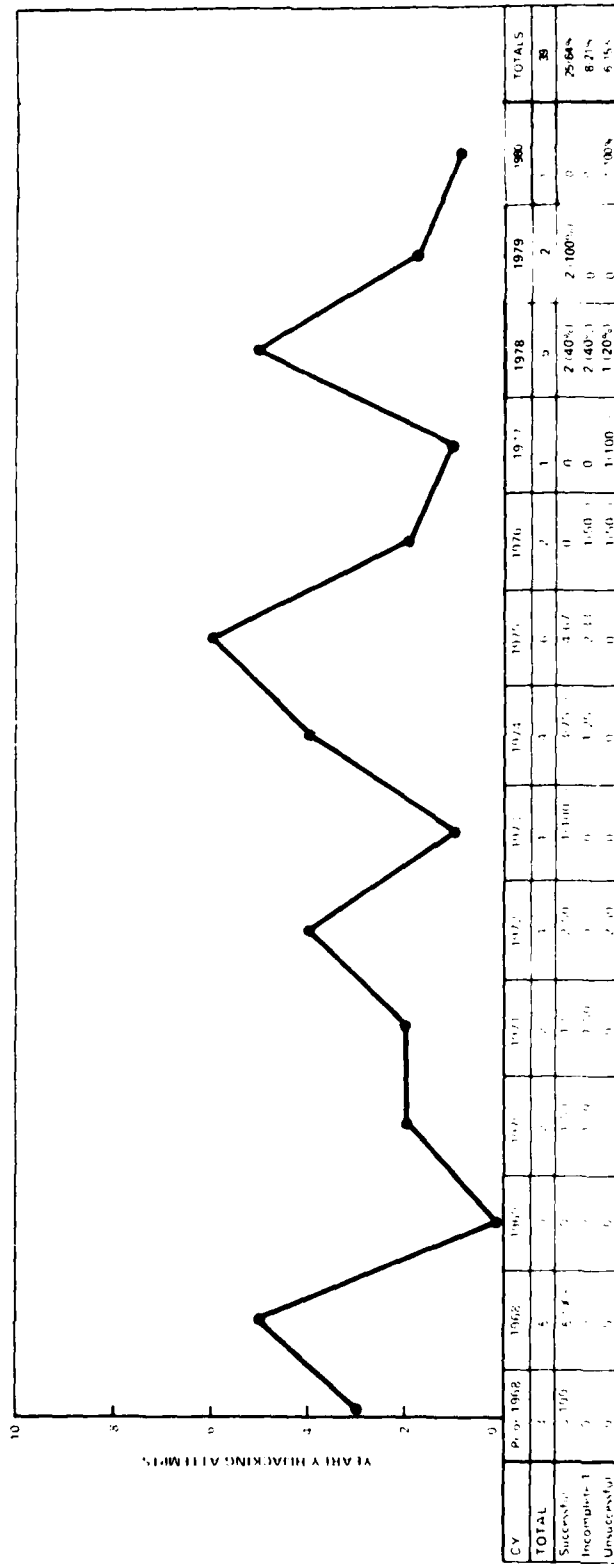
* Includes General Aviation

As of 1/1/81



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Hijacking Attempts on U.S. General Aviation Aircraft



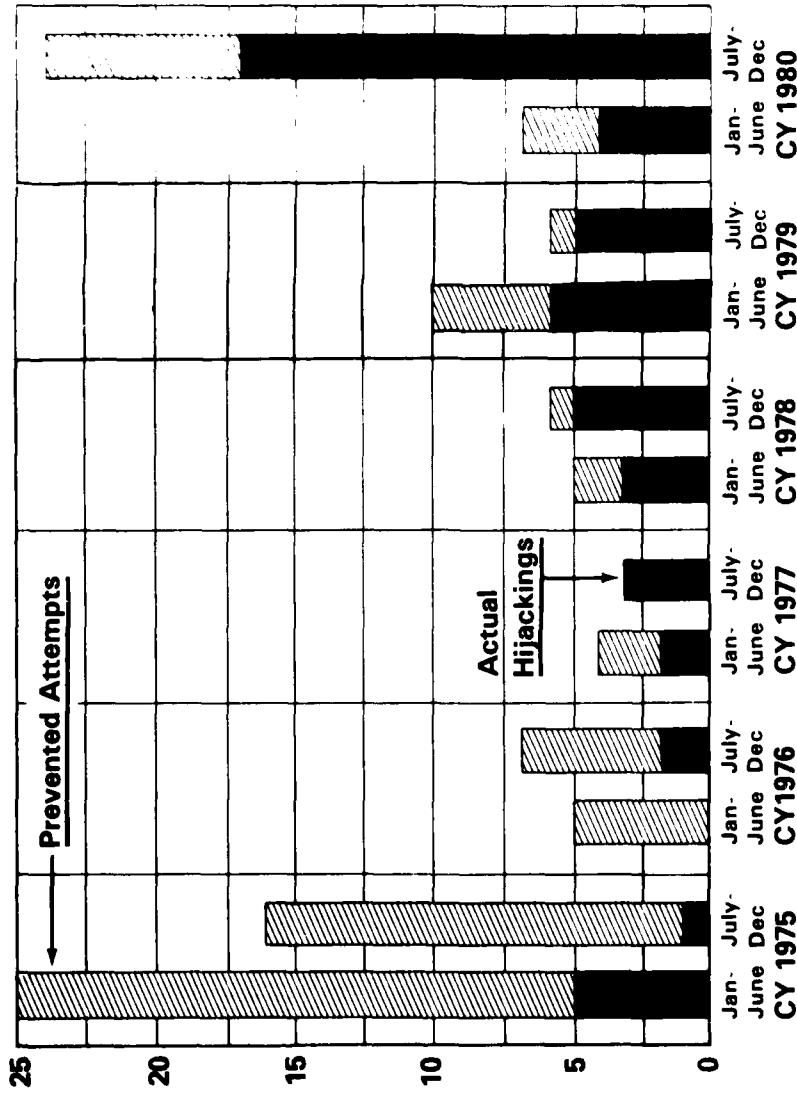
As of 11/81

1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	TOTALS
4	4	3	2	2	3	4	3	3	3	3	3	3	3	3	3	3	3	3	30
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	25.64%
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	8.27%
2	2	1	0	0	1	2	1	1	1	1	1	1	1	1	1	1	1	1	6.15%



U.S. AIR FORCE
FEDERAL BUREAU OF INVESTIGATION

Actual Hijacking & Prevented Attempts (U.S. Air Carrier Aircraft)

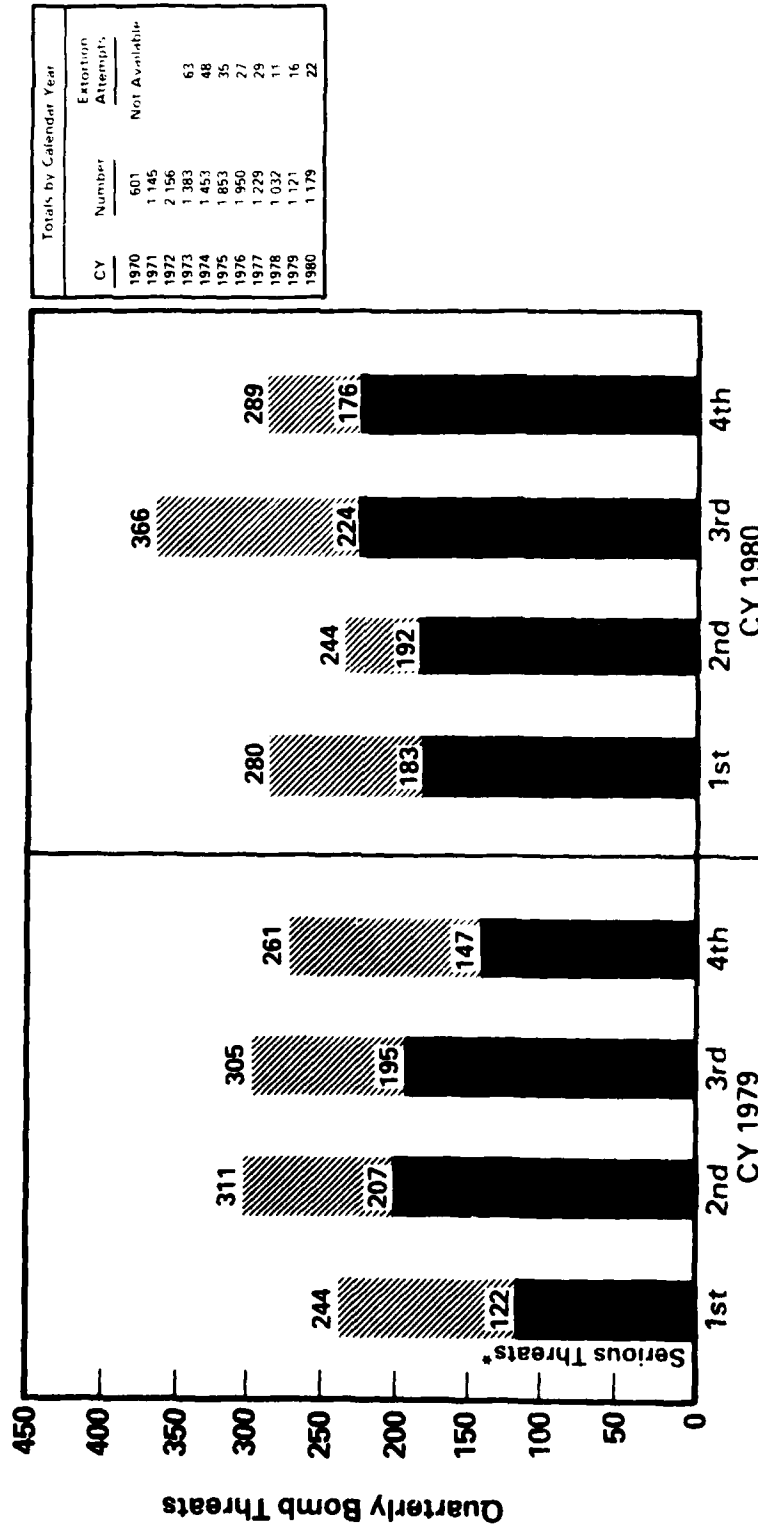


PREVENTED ATTEMPTS: Incidents in which it appeared the individuals involved intended to hijack an aircraft but were prevented from doing so by security procedures.

As of 1181



Bomb Threats Against U.S. Aircraft and Foreign Aircraft in the U.S.

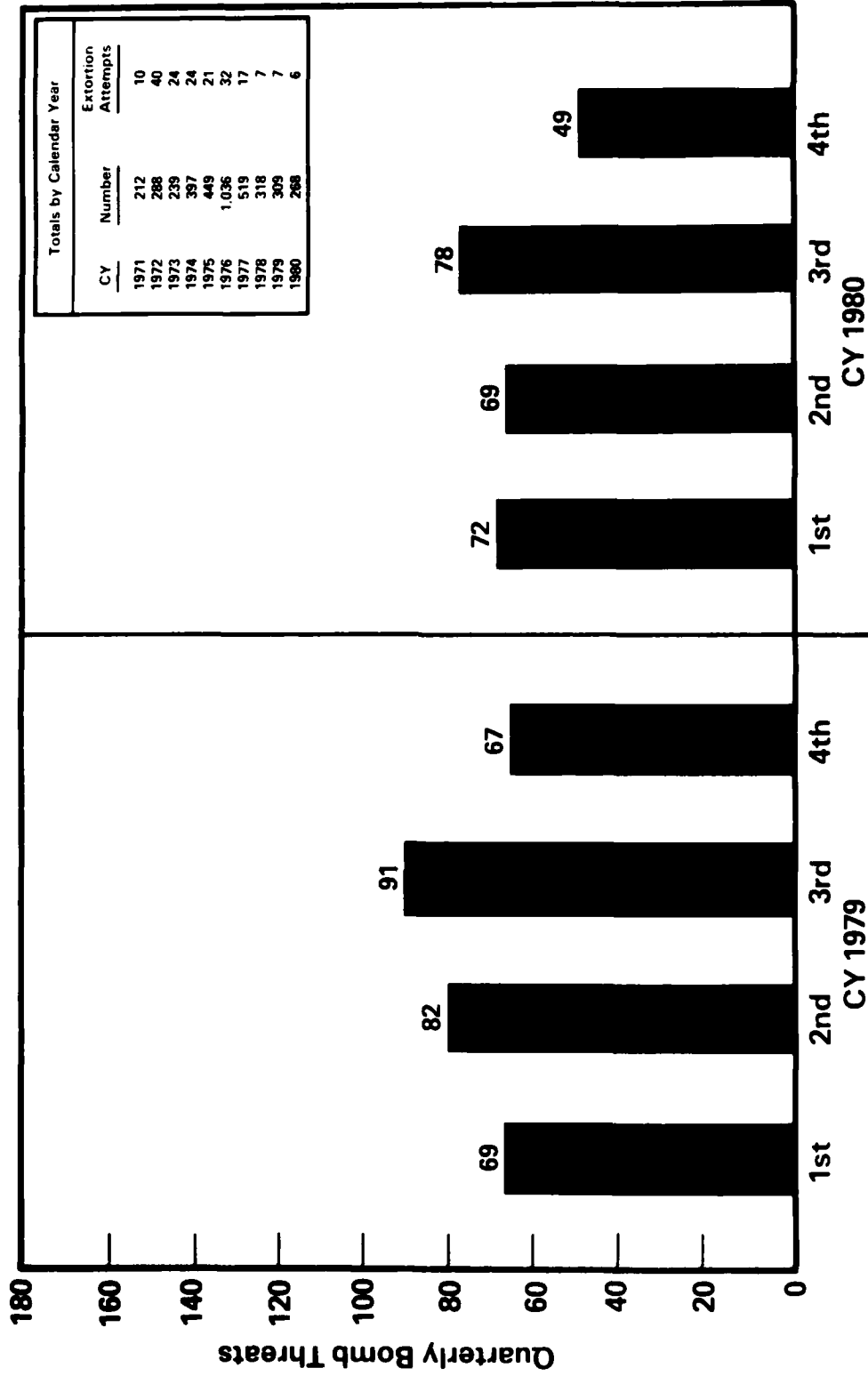


As of: 1/1/81

*A statement made about a serious threat to one of the following groups:

1. If it is directed against a particular aircraft or flight.
2. If it is directed against a particular airline or carrier.
3. If it results in the inconvenience to other passengers.
4. If it results in a search or otherwise disrupts airline operations.

Bomb Threats Against U.S. Airports



As of: 1/1/81



Federal Aviation
Administration

Civil Aviation Security The Threat To U.S. Aviation

	1961-7	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980
Hijackings*	12	22	40	27	27	31	2	7	12	4	6	13	13	22
Explosions:														
Aircraft	2	1	1	2	1	1	2	3	2	2	1	0	1	1
Airports						2	2	4	4	2	3	3	2	1
Explosive Devices Found:														
Aircraft					1	2	2	1	1	1	2	0	2	1
Airports					5	5	3	11	5	3	1	6	6	4
Bomb Threats To														
Aircraft			400	601	1145	2156	1383	1453	1853	1950	1229	1032	1121	1179
Airports					212	288	239	387	449	1036	519	318	309	268

* Includes Air Carrier and General Aviation Hijackings

As of: 1/1/81



U.S. Department
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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
1978	81	147	71	17	8
1979	62	80	85	12	11
1980	4	75	100	16	21

* Statistical data prior to 1970 are approximations.

As of: 1/1/81



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Civil Aviation Security Scope and Effectiveness 1973-1980

- Over 3 Billion Persons Screened
- Over 4.5 Billion Pieces of Carry-on Items Inspected
- Almost 42 Million Flights
- Over 21,000 Firearms Detected
- Over 8,000 Related Arrests
- 90 Hijackings or Related Crimes May Have Been Prevented
by Airline and Airport Security Measures

As Of: 1/1/81



U.S. Department
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**Federal Aviation
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Civil Aviation Security

Airline Passenger Screening Results

January 1977-December 1980

	1977		1977		1978		1978		1979		1979		1980		1980	
	Jan-June	July-Dec	Jan-June	July-Dec	Jan-June	July-Dec	Jan-June	July-Dec	Jan-June	July-Dec	Jan-June	July-Dec	Jan-June	July-Dec	Jan-June	July-Dec
Persons Screened (Millions)	243.1	265.7	275.2	304.5	285.7	306.8	289.9	295.1								
Weapons Detected																
Firearms	874	1160	962	1096	990	1171	1002	1020								
(1) Handguns	745	985	836	991	902	1060	940	938								
(2) Long Guns	24	40	34	33	29	26	17	19								
(3) Other	105	135	92	72	59	85	45	63								
Explosive/Incendiary Devices	2	3	1	2	3	0	1	7								
Persons Arrested																
For Carriage of Firearms/ Explosives	370	440	404	492	469	591	520	511								
For Giving False Information	23	21	31	33	21	26	11	21								
Other Offenses Detected																
Narcotics	156	126	151	99	73	128	75	101								
Illegal Aliens	474	483	723	605	845	844	938	662								
Other	151	242	706	69	40	109	107	67								

Source: Reports Of Passenger Screening Activities at U. S. Airports

As Of: 1/1/81



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Civil Aviation Security Weapon Detection Devices

Type	Basic Characteristics	Manufacturer	Units
Walk-Thru Active	Creates and Measures Deviations in Own Electric Field. Detects. Both Ferrous and Non- Ferrous Metals.	Rens	645
		Infinetics	326
		Metor	77
		Westinghouse	28
		Sperry Rand	11
		Solco	21
		Sentrie	199
Hand-Held Active		Philips	4
		Total	1311
	Comparable to Walk- Thru Active. Limited Effective Range.	Rens	230
		Federal	250
		Solco	720
		Total	1200

Total — All Types — 2511

As of: 1/1/81



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Civil Aviation Security X-Ray Baggage Inspection Systems

Characteristics:

Small Dose X-Ray, Intensify Image Electron-
ically, 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 Articles

Systems In Use:

Astrophysics
Phillips Electronic Instruments
Bendix
American Science & Engineering
New Security Concepts
Dennis & Miller

Total:

360
126
118
61
32
24
721

As of: 1/1/81



US Department
of Transportation
Federal Aviation
Administration

Civil Aviation Security Basic Policies

<u>PROGRAM ELEMENT</u>	<u>RESPONSIBILITY</u>	<u>ACTIONS</u>
AIR CARRIERS	SECURE TRAVEL	• MAINTAIN RESPONSIVE SECURITY PROGRAMS • SCREEN PASSENGERS, CARRY-ON ITEMS • SECURE BAGGAGE, CARGO PROCEDURES • PROTECT AIRCRAFT
AIRPORTS	SECURE OPERATING ENVIRONMENT	• MAINTAIN RESPONSIVE SECURITY PROGRAMS • PROTECT AIR OPERATIONS AREA • PROVIDE LAW ENFORCEMENT SUPPORT
FAA	LEADERSHIP	• IDENTIFY AND ANALYZE THREAT • PRESCRIBE SECURITY REQUIREMENTS • COORDINATE SECURITY OPERATIONS • PROVIDE TECHNICAL ASSISTANCE • ENFORCE REGULATIONS
USERS	PROGRAM COSTS	• SECURITY FUNDED AS OPERATING COST OF SYSTEM



US Department
of Transportation
**Federal Aviation
Administration**

Civil Aviation Security Regulatory Impact

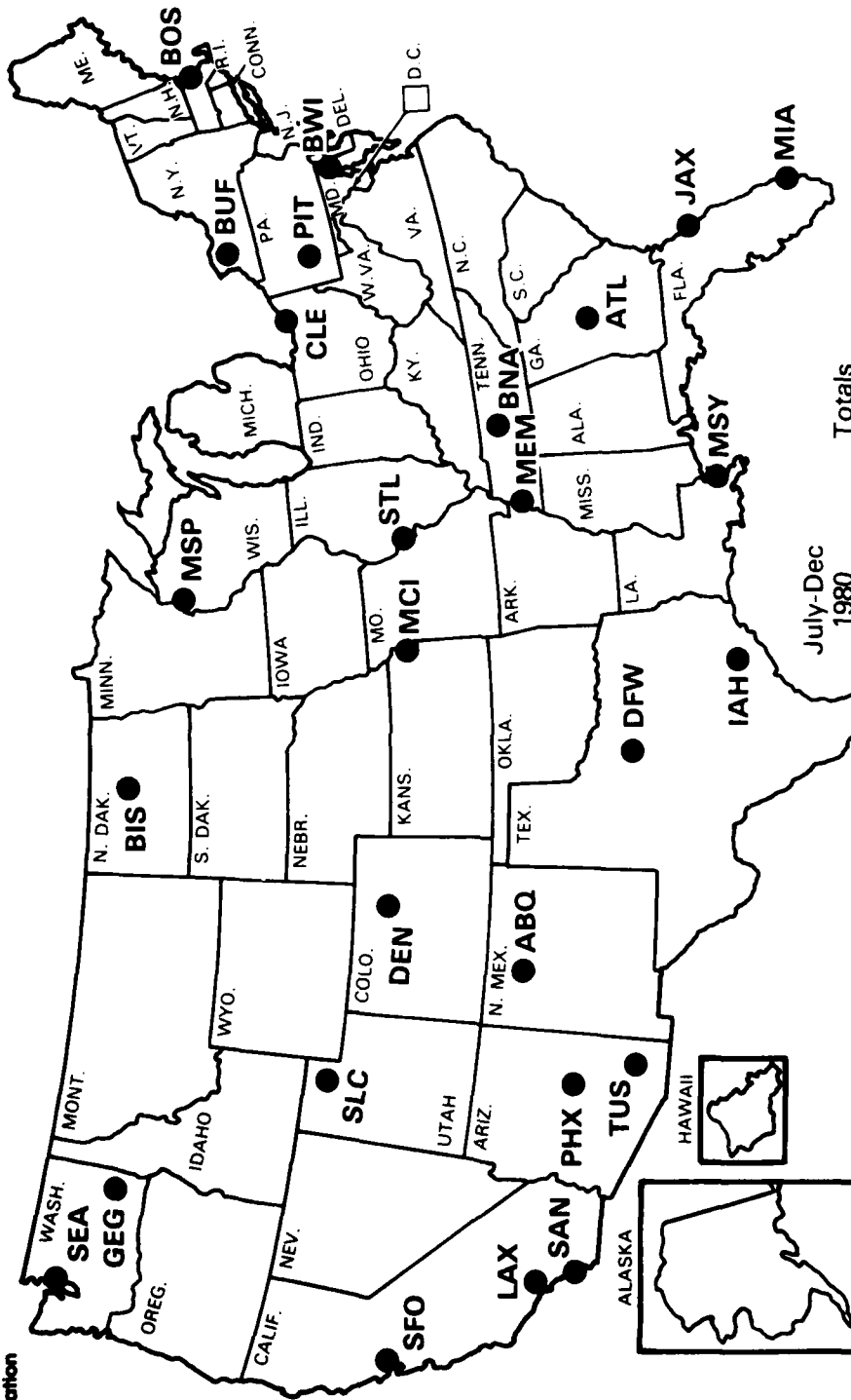
	<u>U.S.</u>	<u>FOREIGN</u>	<u>TOTAL</u>
Carriers	100	98	198
Airports	390	265	655
Aircraft	2,980	—	—
Flights Per Day	14,790	635	15,425
Screening Activity Per Day:			
Persons	1,604,000	110,000	1,714,000
Carry-On Items	1,674,000	100,000	1,774,000

As Of: 1/1/81



U.S. Department
of Transportation
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FAA Sponsored Explosive Detection K9 Teams Locations and Utilization



Aircraft & Airport Searches
Explosive Items Detected
Missions in Local Communities
Explosive Items Detected
Total Explosive Items Detected

July-Dec
1980

Totals
5,204
31
5,747
134
165

SJU●

As Of: 1/1/81

Civil Aviation Security Research and Development Explosive Detection

X-Ray Absorption

- One Unit Sent to FAA Technical Center for Testing to Gather Additional Airport Data
- One Unit Began Operational Evaluation July 1980. Over 55,000 Baggage Articles Processed

Thermal Neutron Activation

- Prototype Evaluated at Two Airports
- Data Analyzed Appears Promising for Air Cargo
- Further Work to Improve System Operation Being Contemplated

Nuclear Magnetic Resonance

- Test at Dallas-Fort Worth International Airport Proved Successful
- Action Initiated to Convert Research and Development Prototype to Operational Prototype

Vapor Characterization

- Identification of Unique Vapors of Explosives
- Study Completed September 1980 Identified Specific Vapors Emanating From Explosives

Biological

- Use of Small Mammals (Gerbils, Rats) to Detect Explosive Vapors
- Proven that Gerbils can be Trained to Detect Odors and Perform Specific Functions
- Sensitivity Testing Progressing Satisfactorily

Walk by Explosive Detector

- System Being Developed by Transportation Systems Center
- Test and Evaluation of Prototype Expected Spring 1981

As of: 1/1/81



U.S. Department
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Civil Aviation Security Foreign Technical Assistance

Actions	Countries Participating
● FAA Technical Assistance Team Visits	28
● Aviation/Law Enforcement Officials Briefings	69
● Training Programs:	
— Aviation Security Course (Students)	76 (331)
— Antihijacking Tactics	42
— Ground Explosive Security	68
— Inflight Explosive Security	91
— Passenger Screening	31
● Analytical Studies Distribution	20

As of: 1/1/81



U.S. Department
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CIVIL AVIATION SECURITY COMPLIANCE AND ENFORCEMENT ACTIONS

U.S. AIR CARRIERS	1973	1974	1975	1976	1977	1978	1979	1980
Warnings	—	—	329	270	276	266	283	154
Letters of Correction	152	124	128	110	109	145	102	100
Non Enforcement Actions	66	36	63	108	61	65	49	55
Civil Penalties (Amount)	43 (\$42,850)	58 (\$75,750)	56 (\$45,300)	84 (\$46,800)	43 (\$66,700)	30 (\$18,075)	26 (\$18,075)	48 (\$42,875)
Investigations Closed	261	218	576	572	489	506	460	357
Investigations Pending					61	48	80	112
FOREIGN AIR CARRIERS								
Warnings		NO Regulation Applicable	0	0	0	0	14	4
Letters of Correction			0	12	11	11	6	4
Non Enforcement Actions			3	2	2	3	3	15
Civil Penalties (Amount)			0	0	0	0	0	0
Investigations Closed			3	14	13	14	23	23
Investigations Pending					2	12	15	5
AIRPORTS								
Warnings Issued	—	—	125	141	137	168	80	83
Letters of Correction	40	68	83	68	53	65	53	91
Non Enforcement Actions	11	14	7	18	23	20	12	23
Civil Penalties (Amount)	1 (\$1,000)	14 (\$6,750)	16 (\$14,450)	19 (\$10,400)	12 (\$3,500)	11 (\$7,500)	19 (\$15,150)	13 (\$15,600)
Investigations Closed	52	96	231	246	225	264	164	210
Investigations Pending					23	29	69	48
INDIVIDUALS								
Administrative Corrections		NO Regulation Applicable	1	27	81	68	617	1,469
Non Enforcement Actions			2	41	24	18	87	162
Civil Penalties (Amount)			1 (\$25)	1 (\$350)	4 (\$2050)	9 (\$1,925)	70 (\$11,300)	155 (\$27,210)
Investigations Closed			4	69	109	95	774	1,786
Investigations Pending					14	45	392	475

As Of 1181

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