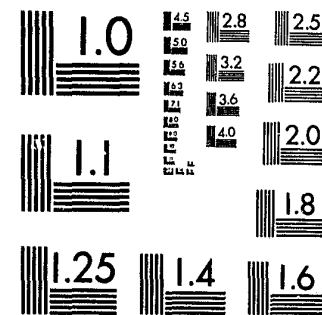


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FBI LAW ENFORCEMENT BULLETIN

AUGUST 1982, VOLUME 51, NUMBER 8

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Federal Bureau of Investigation
United States Department of Justice
Washington, D.C. 20535
William H. Webster, Director

The Attorney General has determined that the publication of this periodical is necessary in the transaction of the public business required by law of the Department of Justice. Use of funds for printing this periodical has been approved by the Director of the Office of Management and Budget through February 21, 1983.

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Director's Message

At the beginning of this year, Attorney General William French Smith assigned concurrent jurisdiction to investigate drug offenses to the FBI in cooperation with the Drug Enforcement Administration. This is part of an "overall effort to achieve more effective drug enforcement through coordinated efforts involving the Drug Enforcement Administration, the FBI, the United States Attorneys and other agencies in this and other Departments," according to the Attorney General.

The Attorney General praised the work of the Drug Enforcement Agency, saying that everyone at DEA "can be justly proud of their accomplishments." However, because of the magnitude of the drug problem today "for the first time since its establishment over 50 years ago, the full resources of the FBI will be added to our fight against the most serious crime problem facing our nation. . . ."

This move is part of the Justice Department's overall strategy to bring about more effective drug law enforcement through more coordinated efforts on the part of the DEA, the FBI, U.S. Attorneys, other agencies in the Justice Department, and other departments of the Federal Government. The DEA, according to the Attorney General, "will continue its fine work" and will be helped by this new cooperative effort.

The FBI's investigative effort in this area will be concentrated on major narcotics trafficking organizations, both those tied to traditional organized crime and not, and on high-level smugglers, distributors, manufacturers, financiers, and corrupt public officials who aid narcotics dealing. All the FBI's new authority will be exercised in close coordination with DEA.

NCJRS

AUG 30 1982

ACQUISITIONS

We found that this close coordination could, and did, work in the 6 months before this new plan was announced. During that time, the number of joint investigations increased from 6 to 120 throughout the country. In that period, the FBI Executive Assistant Director for Investigations, Francis M. Mullen, Jr., acted as Administrator of DEA. From an administrative standpoint, this was a very good way of bridging the gaps that existed between the two agencies. We envision the continuation of this coordination, including cross-training of DEA and FBI Agents.

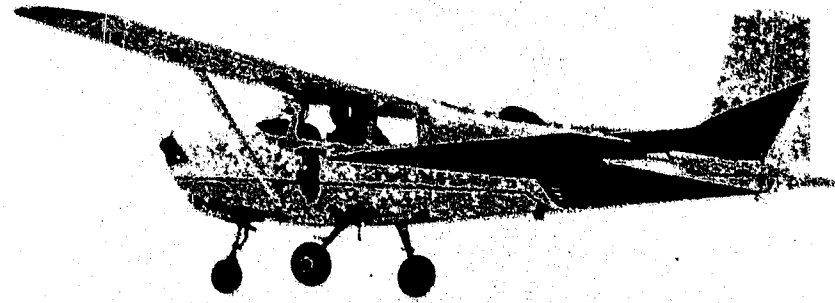
The resources of the FBI will be applied as they have been consistently in the past—that is, to do the work that State and local law enforcement cannot do, as defined by the Congress in its setting of Federal jurisdiction. Often, large interstate narcotics smuggling is beyond the budget, personnel, and monetary abilities of local departments. Adding FBI resources in manpower, geographic coverage, and newly gained experience in undercover and organized crime investigations to DEA's wealth of knowledge and experience in the drug field, we believe will have a substantial impact on the national drug problem.

William H. Webster

William H. Webster
Director
August 1, 1982

84995

Aircraft



Use of Aircraft in Law Enforcement

An Illinois State Police Experience

By
R. J. MILLER
*Superintendent
 Illinois State Police*
 and
JOYCE M. HAYES
*Staff Assistant to
 the Superintendent
 Illinois State Police
 Springfield, Ill.*

A motorist is stranded on a desolate Illinois highway. He begins to ponder how many miles he will have to walk to get to a telephone to call a garage to pick up his car, which has decided to take an unscheduled rest in the middle of nowhere. Just as he was about to give up hope of finding a good Samaritan who might help, he heard a loud voice booming from the sky above. Looking into the bright sunlight, he could see the outline of a small plane circling above him. Just as he was trying to decide what to do, a loud voice bellowed forth, asking the man whether he was having car trouble. He answered "yes" with one wave, as requested by the voice from above. His response was acknowledged and he was told to sit tight—help would be on the way. Within 20 minutes, an Illinois State Police officer was on the scene, alerting a towing service to the man's location. A couple of hours later, the man found himself back on his way again.

This scenario is similar to others of the past. Although State police aircraft are involved extensively in traffic enforcement, during FY-81, 269 motorist assists were also documented by the Air Operations Section.



Superintendent Miller



Ms. Hayes

Illinois State Police airplanes are in a position to spot a motorist in trouble. The airplanes are equipped with an outside speaker and public address system, making communication with motorists possible. In some instances, the officer in the aircraft may ask the motorist to communicate through hand and arm signals, so that a service truck can be dispatched immediately, thereby eliminating the necessity for a squad car to handle the needs of the motorist. The aircraft also has a CB transceiver on board, enabling officers to communicate with other CB operators who are in trouble, via channel nine—the national emergency channel. High-band and low-band police radios are also installed in the plane so contact can be made with ground patrol.

These aircraft, therefore, provide a very beneficial service to those motorists who find themselves stranded. However, as stated earlier, the aircraft are more commonly used for traffic enforcement.

Illinois was the third State to use the airplane to aid ground patrol in stopping speeders. In November 1959, three new planes were purchased for use in traffic control and other aerial operations. A crew of six was recruited from the ranks.

Predicting the speed of vehicles is a simple task. In various portions of the State, white lines have been painted across a lane of traffic, exactly 660

feet apart. (There are approximately 400 pairs of these white lines in Illinois.) Both the pilot of the aircraft and an observer activate their stopwatches when a vehicle crosses the first white line and stop them when it crosses the second. Using a scale retained in all aircraft, the pilot and the observer check the time lapse and the speed is mathematically computed. By using the scale, a vehicle's speed can be determined to the nearest 1/100th of a mile per hour. For example, a car traveling 60 miles per hour will take exactly 7.5 seconds to travel the 660 feet between the two white lines. The vehicle breaking the second line is then kept in direct view by the observer until it reaches the "catch car" on the ground.

There is no chance of "false echoes" or of radar picking up the wrong car. The electronic stopwatches (there are usually three or four in the aircraft for backup) are checked every 6 months for accuracy. Small errors—to the 1/100th of a second—are certified in writing. If the accuracy of the watch ever falls below the allowable limit, the watches are removed from service. However, certification records have indicated that the watches have needed very little adjustment. If there is a discrepancy in time when the pilot and observer compare their watches, the driver is given the benefit of the doubt. The fastest speed ever clocked in Illinois, using this measurement, was in excess of 132 mph on a two-lane roadway.

Neither the direction of the aircraft or vehicle, the altitude of the aircraft, nor the angle between the aircraft and the roadway reduces the accuracy of the check, as long as the observer can clearly see the lines and maintain constant visual contact with the vehicle.



"These aircraft . . . provide a very beneficial service to those motorists who find themselves stranded."

The accuracy of the measurement used for detecting speeding has been upheld by the court system. Based upon the pilots' personal experience in the courtroom, the speeding arrests made by aircraft receive an overwhelming 95-percent conviction rate. This rate far surpasses the conviction rate experienced when other enforcement tools, such as moving or stationary radar, are employed.

The total number of arrests generated by the aircraft for FY-81 was 35,082, an increase of 171 percent over the 1980 total of 20,512. This significant increase in enforcement activity further demonstrates the expanding role the aircraft plays in the division's enforcement operation.

The Pilots and Their Aircraft

Until May 1981, there were 22 pilots, plus a chief pilot, who is responsible for training and maintenance and who serves as the principle operator of the department's twin-engine aircraft used for executive transportation. These 22 sworn pilots were located in various districts throughout the State; the chief pilot, a nonsworn employee, was stationed in Springfield. This geographical balance continues to be maintained even though there have been cutbacks in the total operation and manpower.

To be considered eligible to be a pilot within Air Operations, a sworn field officer must possess at least a private pilot's license. If the individual is selected, the department provides him training to receive an instrument and

commercial rating. Officers, other than the chief pilot, who are assigned to flight duty, participate in the department's technical career path program which compensates the pilot for the "technical" nature of the position they hold.

Ongoing training is provided to the pilots. This training consists of a "flight check" at least every 6 months by the chief pilot, as well as frequent unannounced "spot checks." The pilots must also have a yearly physical. In addition, there is an aircraft maintenance program consisting of 50- and 100-hour inspections which occur between the required 400-hour inspection and the annual inspection.

The fleet itself consists of seven single-engined planes, which are used for patrol purposes, and one twin-engined aircraft which is used basically for executive transportation. These eight aircraft are geographically distributed to reduce flying time to service areas in various cities throughout Illinois.

The fixed-winged aircraft were selected rather than helicopters because of the size of the geographical area they are assigned to cover. Through rapid surveillance, aircraft can reduce the critical timelag between the occurrence of an accident or event requiring assistance and the arrival of the police or other emergency units on the scene. Fixed-winged aircraft are also more cost-effective.

Until late 1980, there were always two pilots in the aircraft whenever it was assigned to airspeed checks. However, in October 1980, in order to cut down on costs, a new program was instituted. Instead of a second pilot, a nonpilot State trooper is now assigned to ride in the aircraft as an observer with the pilot, and he is the one who does the actual clocking of vehicles.

With this program, the aircraft can be used during virtually all the daylight hours by rotating pilots and observers, if needed. A decrease in the number of days on which flights were cancelled in FY-81 compared to FY-80 was the result of replacing one of these two pilots with a ground officer.

More time can now be spent on speed checks. The number of total arrests made by both aircraft and ground patrol has risen markedly from the approximate 30,000 average annual number. Along with the increase in the number of arrests made, it was discovered that during FY-81, the aircraft were used more efficiently with an average of 3.7 stops per hour compared to 3.5 stops per hour to flight devoted to traffic enforcement in FY-80.¹

This program does not result in higher fuel costs because there is no increase in the number of hours flown. Fixed expenses, such as payroll, hangar rent, etc., also remain the same.

Until May of 1981, the average number of air patrol hours in one day was 5 to 6 hours, and the aircraft were operated 7 days a week during daylight hours. However, because of current Federal and State funding constraints, the planes are now used for patrol purposes only 60 tachometer hours per month. This is an average of 3 hours per day, 5 days per week. The funding constraints also resulted in a cutback in the number of sworn pilots needed, necessitating the reassignment of six officers to district oper-

"Airplanes are very valuable to law enforcement in areas such as manhunts, surveillance, photography, emergency relays, as well as in the traditional traffic enforcement role, and should be part of every State police operation."

ations. The airplanes are flown year-round, weather permitting. On selected holidays and on peak summer weekends, a double shift may be flown.

The total number of logged flying hours in FY-81 was 8,362.7 hours. The total number of hours logged between when the State police began its fleet operation and July 1981, is 69,182.8. In spite of this large number of tachometer hours, there has never been an aircraft crash.²

Funding

From 1959 until FY-78, the fleet size of the aircraft operation remained at three. During FY-78, a grant was submitted to the National Highway Traffic Safety Administration to purchase and operate three additional aircraft for "line patrol" along interstate highways. The request was believed to be justified because of the increased amount of completed interstate highway, as well as the increased number of vehicles and licensed drivers.

The primary objectives of the proposed program were:

- 1) To reduce traffic accidents and their severity;
- 2) To assist motorists; and
- 3) To assist in supervising an orderly flow of traffic on the interstate and primary highway systems of Illinois.

The secondary objectives included:

- 1) Supporting and coordinating ground patrols;
- 2) Search and rescue;
- 3) Special surveillance and photography;
- 4) Emergency transportation; and
- 5) Traffic enforcement.

The Department of Transportation (DOT) gave approval to purchase only two aircraft. This necessitated a re-vamping of the original program and called for the use of the two aircraft on a concentrated patrol effort on Interstate 57.

In FY-79, another grant proposal was submitted asking for continued operating funds for the two aircraft on Interstate 57, as well as requesting funds for the purchase and operation of two additional aircraft to be used for concentrated enforcement efforts on Interstate 80 and Interstate 74. Funds for the purchase and operation of three helicopters were also requested for duties that would be better handled by rotary-winged aircraft. Permission was granted to purchase one additional aircraft for line patrol on Interstate 80.

In FY-80, an additional aircraft to be designated for special enforcement emphasis was requested to patrol a 127-mile section of highway. Operational funds for the airplane were also requested, as well as continued operational funding for the previous three aircraft. This request was approved.

In FY-81, funds for the operation of the four airplanes were received, along with funds for high-intensity lighting.

At the beginning of FY-82, all Federal funding for the aircraft program was terminated. A request was therefore submitted to the general assembly for replacement of the two aircraft used on Interstate 57, as well as operational funds for the four aircraft and equipment funds for four additional sky-timers. Because of money constraints currently being placed on State government, only replacement aircraft and operational funds were received.

Department of Transportation Evaluations

Evaluations of the airplanes' effectiveness have been conducted by the DOT's Division of Traffic Safety. These evaluations were conducted for the 1978-1979 period. (The Division of Traffic Safety is currently working on an evaluation for the periods of April 1979, to March 1981.)

The conclusion of the initial interim evaluation stated that "the Illinois State Police aerial patrol was accomplishing its major objectives—reducing the number of accidents and accident severity along Interstate 57."³ However, the number of motorist contacts was not as high as anticipated, and reductions in speed was not accomplished. Illinois DOT further stated that the project warranted continued funding, with increased emphasis in the areas of motorist contact and speed reduction.⁴

In a later evaluation of the same time period, it was determined that a significant decrease in accidents coincided with the operations of the aerial patrol and that the Illinois State Police aerial patrol had led to a reduction in the number and severity of accidents along rural portions of Interstate 57 and Interstate 80. However, the decrease in the average speeds of vehicles was small. It was also determined that air and ground patrols needed to be better coordinated to increase the number of apprehended violators.

It was further recommended by the DOT that the Illinois State Police continue the aerial patrol of the State's interstate highways, with emphasis on the concept of combined aerial and ground team effort and that highway safety funds continue to be used to underwrite the operational costs of aerial operations.⁵

The DOT, therefore, has concurred that the concept of aerial patrol for the Illinois interstate system is in the best interest of public safety. The program affords the Illinois State Police some operational flexibility, which it requires to be effective and efficient in its enforcement efforts.

Current Problems

In order to use the aircraft most effectively during the present curbing of flight hours, flights for nonlaw enforcement-related activity are being curtailed when possible. When the aircraft are not in operation, the pilots are assigned to road patrol.

Since there is a reduction in the number of hours of operation, the fixed costs associated with the airplanes are a major consideration. To decrease the fixed costs, the crew has been reduced to two pilots, and there has been a geographical reapportionment of the aircraft work areas. Pilots are used on the road during nonflight periods. The procedures used for the depreciation and maintenance cycles are being evaluated. It is also being determined whether the best possible locations for hangars and office facilities are being used.

In the past, the weakest element of the air operation has been the ground support provided. It was determined through a staff study that to be most cost-effective, two chase cars should be used with an objective of 4.1 stops per hour, per trooper.

An evaluation was recently conducted to determine what type of replacement aircraft could be purchased at a more reasonable price than those currently being used. Consideration was given to a smaller aircraft; however, it was decided that the present type of aircraft be retained because of safety, necessity to transport personnel, and its overall versatility.

Consideration is now being given to reduce the size of the fleet so that each plane's use will be increased, and fixed costs can be reduced. A cost benefit analysis will be conducted to determine if increased use is worth the loss of coverage allowed by the present geographically distributed airplane sites.

Summary and Analysis

The airplane is an expensive tool for use in law enforcement because of high fixed costs, particularly for pilots' salaries and aircraft depreciation. However, on a "per mile" basis, the airplanes used in line patrol are no more expensive than equivalent patrol on the ground, and they are definitely superior in terms of area patrolled.⁶

Airplanes have not proved cost-effective in terms of cost incurred for "activity rendered." This is primarily because the aircraft have not been used to their fullest capabilities. For instance, we could increase aircraft operation substantially through the number of hours flown, increase the number of stops for traffic violations and motorists assists each hour, and increase ground support from two chase cars to four for maximum activity and productivity. If the aircraft were used to the fullest extent, they would become cost-effective.⁷

Airplanes are very valuable to law enforcement in areas such as manhunts, surveillance, photography, emergency relays, as well as in the traditional traffic enforcement role, and should be a part of every State police operation. However, it is also important that these planes be made available to agencies such as the Department of Conservation, the FBI, and local law enforcement agencies in order to provide the most efficient and effective law enforcement services to the citizens of the State.

FBI

Footnotes

¹ Richard A. Raub and Bobby L. Henry, Sr., *Aircraft Operating Activity, Two Year Period—FY 80 and FY 81*, Illinois Department of Law Enforcement, Springfield, Ill., p. 7.

² Area patrol aircraft are assigned to various sections of the State and are used mainly for traffic enforcement in sensitive areas, such as high-accident areas, "no passing" zones, and truck weigh-in stations. Area patrols are flown when there is at least a 2,000-foot ceiling and at least 5-mile visibility. Line patrol aircraft are assigned areas of interstate highways. Officers observe the highway linearly, keying on accidents, stalled vehicles, traffic backups, and reckless driving. When an emergency is encountered, the aerial patrol stays over the area, pursues, maintains contact, or takes other action appropriate to the situation. Interstate line patrols are flown when there is at least a 1,000-foot ceiling and at least a 5-mile visibility.

Normal patrols are flown at an altitude of from 1,000 feet to 2,500 feet, at approximately 135 m.p.h.

³ P. P. Madonia and R. A. Raub, *Interstate Aerial Patrol Illinois State Police Interim Evaluation*, Illinois Department of Transportation, Division of Traffic Safety, Springfield, Ill., May 1979, p. 8.

⁴ Ibid.

⁵ James P. O'Brien and Charanjit S. Sidhu, *Evaluation of Aerial Patrols of Interstate Highways by the Illinois State Police 1978-1979*, Illinois Department of Transportation, Division of Traffic Safety, Springfield, Ill., April 1980, pp. 12-14.

⁶ Richard A. Raub and Bobby L. Henry, Sr., "Cost of Using Airplanes in Traffic Law Enforcement: A Case Study," *Traffic Quarterly*, vol. 35, No. 1, January 1981, pp. 82-83.

⁷ Ibid, p. 83.

END