Report of the
Joint Legislative Audit and Review Commission
To the Governor and
The General Assembly of Virginia

Special Report: Use of State-Owned Aircraft

October 24, 1977

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Joint Legislative Audit and Review Commission

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October 24, 1977

The Honorable Mills E. Godwin, Jr.
Governor, Commonwealth of Virginia

Members of the Virginia General Assembly

The Secretary of Administration and Finance
The Secretary of Transportation
The Secretary of Education

Appropriate Commonwealth Officials

Gentlemen:

Under provisions of Section 30-58.1(c), *Code of Virginia*, a special report regarding the Use of State-Owned Aircraft is submitted for your attention.

Findings of the report were discussed by the commission on October 24, 1977, and have been reviewed by appropriate agencies. Formal comments received to date are attached.

Please note the actions of the commission contained on Page 22. The commission believes that an assessment of State aircraft needs, coupled with the establishment of proper and complete policies and guidelines, are essential to manage the State's air-fleet in an efficient, effective, and economic manner. On behalf of the commission, I am

Sincerely yours,

Edward E Lane

Edward E. Lane
Chairman

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Attachment

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USE OF STATE-OWNED AIRCRAFT

Since the 1930's, the number of State-owned aircraft has increased from a single plane to a current fleet of 22. Seven agencies independently administer, maintain, and operate these aircraft. However, few State or agency-level policies or guidelines have been developed for managing aircraft operations. Only three agencies, for example, have written policies regulating use of planes. And, there are no State guidelines on acquisition, use, or accounting. This general lack of policies has led to frequent inefficient, uneconomic and, at times, questionable use of aircraft.

The purpose of this special report is to examine various aspects of agency aircraft operations including ownership, use, cost, and management. Several alternatives are presented to improve management and utilization of State-owned aircraft.

AIRCRAFT OWNERSHIP

Agencies have acquired aircraft to assist in carrying out program activities and to provide passenger service for State employees. Table 1 indicates the scope of agency aircraft operations.

Table 1

AGENCY AIRCRAFT OPERATIONS

Agency	1976 Operating Costs[1]	Number of Aircraft[2]	Number of Pilots[3]
State Corporation Commission	$117,959	3	10
Department of Highways and Transportation	98,275	1	3
Department of State Police	111,513	8	29
Virginia Polytechnic Institute and State University	182,874	6	4
Commission of Game and Inland Fisheries	6,492	2	2
Marine Resources Commission	20,831	1	1
Virginia Institute of Marine Science	20,634	1	2
Total	$558,578	22	51

[1] Fiscal year 1976 direct and indirect operating costs.
[2] As of September 15, 1977.
[3] Includes personnel qualified to fly agency aircraft. Some personnel have other assigned duties.

Source: Agency data and interviews.

During fiscal year 1976, the total cost of aircraft operations was about $560,000. JLARC estimates that the value of agency-owned aircraft is over $1 million.

Purpose and Ownership of Aircraft

Aircraft operated by State agencies range from helicopters to large multiengine planes (Table 2). The following discussion identifies the type of aircraft owned by agencies, the intended use of the aircraft, and the number of personnel required to support aircraft operations.

State Corporation Commission (SCC). The Aeronautics Division of the SCC administers the laws of Virginia relating to:

- the licensing of airports, landing fields, drop zones, aircraft, and airmen;
- the construction, maintenance, and improvement of public use airports; and
- the promotion of aviation in the interest of the public.

The division is also directed by executive memorandum to provide transportation for the Office of the Governor and Governor's Cabinet when requested.[1] Additionally, the division provides transportation to other State employees who have been authorized to travel by their respective agencies.

Three aircraft are operated by the SCC--one is used to maintain airport navigational aids and two are used to carry out its transportation mission.

The division employs ten pilots and two mechanics. Three pilots work in the Navigational Aids section. Seven pilots have other responsibilities for the various programs conducted by the division. The division operates on a special fund basis through charges to other agencies requiring their services and through aviation-related fees and taxes.

Department of Highways and Transportation (DHT). The department uses its plane for aerial photography as well as for passenger service. A twin engine, fully instrumented Turbo Commander is specially equipped with camera gear to perform aerial photography. While most of the aerial photography work is used to plan and select routes for proposed highways, other agencies can contract for pictures of their property. Although aerial photography missions take precedent, the Turbo Commander is also used for State travel. Three pilots are employed by DHT. Each pilot has other administrative assignments in addition to performing flying missions.

Table 2

TYPE, VALUE, AND LOCATION OF AIRCRAFT
(October 1977)

Agency	Aircraft	Approximate Value at Acquisition	Location
State Corporation Commission (SCC)	Beech King Air[1]	$ 484,500	Richmond
	Beech Twin Bonanza	67,950	Richmond
	Cessna Stationnaire	45,000	Richmond
Department of Highways and Transportation (DHT)	Turbo Commander 690	533,263	Richmond
Department of State Police (DSP)	Piper Aztec	20,800	Richmond
	Cessna Skylane	23,040	Richmond
	Cessna Skylane	23,040	Wytheville
	Piper Cub	12,195	Culpeper
	Piper Cub	12,195	Lynchburg
	Piper Cub	12,195	Chesapeake
	Fairchild Hiller (helicopter)	112,500	Roanoke
	Bell-Jet Ranger (helicopter)	124,000	Richmond
Virginia Polytechnic Institute and State University (VPI&SU)	Aero Commander 680[2]	150,000	Blacksburg
	Beech Queen Air[3]	195,500	Blacksburg
	Cessna 150	12,000	Blacksburg
	Cessna 150	6,000	Blacksburg
	Cessna 150	6,000	Blacksburg
	Cessna Skymaster	48,500	Blacksburg
Commission of Game and Inland Fisheries (CGIF)	Piper Cub (Float)	20,000	Back Bay
	Piper Cub	6,000	Back Bay
Marine Resources Commission (MRC)	Cessna 182-D	21,995	Eastern Shore (Northampton County)
Virginia Institute of Marine Science (VIMS)	DeHavilland Beaver	N/A[4]	Newport News

[1]This aircraft is owned by the Governor's office but operated and maintained by the SCC.
[2]Received as a gift from DHT with the stipulation that VPI&SU pay for engine replacement--estimated at $32,000.
[3]Purchased from a private, West Virginia coal company for $1.00 and other valuable considerations.
[4]VIMS plane is leased without cost from the U. S. Navy.

Source: Agency interviews, 1977.

The Department of State Police (DSP). DSP operates eight aircraft from six division locations (Richmond, Chesapeake, Culpeper, Roanoke, Lynchburg, and Wytheville). Aircraft are used to assist in police-related operations including searches, rescues, patrols, traffic control, monitoring civil disturbances, and aerial photography.

The DSP airfleet includes a twin engine Piper Aztec, five single engine fixed-wing aircraft, and two helicopters. The Piper Aztec, based in Richmond, was purchased from the SCC in 1969.

Twenty-nine troopers are used for pilot duty in addition to their regular law enforcement duties. Maintenance and repair is performed by mechanics employed by the SCC or private firms.

Virginia Polytechnic Institute and State University (VPI&SU). Aircraft operations at VPI&SU are unique for two reasons: the university is the only institution operating an airport for public and private use; and, it is the only State supported college which operates and maintains aircraft at State expense. The airport services six university-owned aircraft. A twin-engine Aero-Commander, and a Beech Queen Air are used for transportation of administrative and faculty personnel. Three Cessna 150's are used for ROTC and student flight instruction. A Cessna Skymaster, purchased in March, 1977, is used for air pollution research. (In February, 1977, VPI&SU sold a Cessna Skylane which had been on contract with the U. S. Forest Service for forest fire patrol. The contract was discontinued in 1976. Since the plane was owned by VPI&SU during fiscal year 1976, it is included in some of the cost data reported in this special study.)

The university employs an airport manager, three full-time pilots and two mechanics. A faculty member in the Department of Civil Engineering pilots the recently-purchased Cessna Skymaster.

Commission of Game and Inland Fisheries (CGIF). Two single-engine planes are used primarily for game studies, stocking fish, detecting violations of fishing and hunting laws, and performing emergency rescue operations. CGIF employs two pilots who also have law enforcement, research, or other duties.

The commission often uses charter planes to supplement its work. During fiscal year 1976, charter planes were used about 245 hours at a total cost of $6,946.

Marine Resources Commission (MRC). MRC operates a single-engine plane which is based on the Eastern Shore. The plane is used primarily for aerial patrol of the Tidewater area. In addition, the plane is used for passenger transportation. One employee serves as an Inspector/Pilot.

Virginia Institute of Marine Science (VIMS). VIMS uses a single-engine utility aircraft to perform such aerial activities as

surveillance of oil spills, photography, and mapping. The plane was obtained from the U. S. Navy in November, 1975, under a five-year, no-cost contract. VIMS provides the Navy any data gathered through the use of the aircraft. The institute employs one pilot who has other assigned duties. In addition, one other employee is a licensed pilot and flies the institute's plane when necessary.

AIRCRAFT USE

Uses of State-owned aircraft can be generally classified as travel or program related. The former use includes passenger flights which transport employees on official State business. Program related flights, on the other hand, involve use of aircraft in support of an agency's primary mission. This section examines the extent to which agency aircraft are being used to carry out their intended use--travel and/or program related.

Passenger Travel

A number of agency aircraft are used for passenger travel, especially in the capitol area. The Governor has designated three Richmond-based aircraft for use in transporting employees on State business. Specifically, the SCC Beech King Air and Twin Bonanza and the DHT Turbo Commander are to be used by the cabinet secretaries and agencies for passenger travel. Table 3 shows that during fiscal year 1976, these planes were used extensively for this purpose.

However, two additional Richmond-based planes, each owned by the State Police, were also used regularly for transportation. As shown in the table, the DSP Piper Aztec was used exclusively for passenger travel. And, half of the hours flown on the Cessna Skylane based in the Richmond Division were for travel-related purposes. Only 17% of the total time logged on the two aircraft during fiscal year 1976 was law enforcement related--the intended use of the aircraft.

VPI&SU has two planes authorized for transporting university officials and faculty on business. A JLARC review of flight data revealed that both the Aero Commander and Beech Queen Air are underutilized.* Furthermore, the two planes flew on the same day only once during fiscal year 1976. The urgency of business and the location of VPI&SU has, in the past, justified a plane for travel purposes. Nevertheless, available flight data suggest that the university may not have sufficient passenger demand to support the operation of two travel aircraft.

*Based on an average of 300 hours per year for executive travel planes as reported by the Federal Aviation Administration, 1975.

Table 3

USE OF STATE PLANES
(Fiscal Year 1976)

Agency/Plane	Intended Use(s)	Total Hours	% Travel Use	% Program Use
SCC				
Beech King Air	Travel	418	95	0
Beech Twin Bonanza	Travel	377	74	25
Cessna Stationnaire[1]	Navigational Aids	--	--	--
DHT				
Turbo Commander 690	Aerial Photography/ Travel	378	50	44
DSP				
Piper Aztec	Law Enforcement	100	96	0
Cessna Skylane	Law Enforcement	252	50	24
Cessna Skylane	Law Enforcement	139	35	39
Piper Cub	Law Enforcement	155	14	67
Piper Cub	Law Enforcement	149	0	93
Piper Cub	Law Enforcement	139	3	93
Fairchild Hiller (helicopter)	Law Enforcement	327	5	72
Fairchild Hiller[2] (helicopter)	Law Enforcement	344	15	82
VPI&SU				
Aero Commander 680	Travel	173	85	0
Beech Queen Air	Travel	249	94	0
Cessna Skylane[3]	Forest Service	51	0	100
Cessna 150	Flight Instruction	176	0	100
Cessna 150	Flight Instruction	308	0	100
Cessna 150	Flight Instruction	252	0	100
Cessna Skymaster[1]	Air Pollution Research	--	--	--
CGIF				
Piper Cub (float)	Law Enforcement	215	0	100
Piper Cub[1]	Game & Fisheries Research	--	--	
MRC				
Cessna 182-D	Law Enforcement Travel	340	29	71
VIMS				
DeHavilland Beaver	Research/Travel	344	10	90
Total		4,886	36%	58%

[1]Purchased following the fiscal year 1976 period.
[2]Replaced by a Bell Jet Ranger helicopter following the fiscal year 1976 period.
[3]Sold February, 1977.
Source: Compiled from agency flight logs, 1976.

Program Use

Nearly 60% of all hours flown by State-owned aircraft during fiscal year 1976 were in support of agency programs. Table 3 shows the percent of time each plane was used for program-related purposes. Because of the specialized nature of many of the functions performed, it is difficult to judge whether the hourly use of some utility planes is high or low. For example, the CGIF float plane is used for enforcement of game and fisheries laws, surveys of wildlife, and research. While the plane was used only 215 hours, many of these tasks could not be performed without a float craft. Several agency aircraft, however, can be assessed as underutilized in the performance of their intended program mission--generally because programs have changed, several aircraft are available to perform the same activity, or the planes are being used for passenger travel instead of program uses.

During fiscal year 1976, the State Police operated eight aircraft about 1,000 hours for law enforcement. Table 4 shows the number of mission hours flown by each aircraft. Excluding the Piper Aztec and two Cessna Skylanes, the total number of mission hours flown for law enforcement was 887, or about 117 hours per aircraft. The Piper Aztec was used solely for travel purposes.

Table 4

MISSION-HOURS FLOWN BY STATE POLICE AIRCRAFT
(Fiscal Year 1976)

Plane	Law Enforcement	Proficiency Training	Travel	Maintenance Related[1]	Total
Piper Aztec	--	1	96	3	100
Cessna Skylane	61	33	126	32	252
Cessna Skylane	54	5	49	31	139
Piper Cub	104	24	22	5	155
Piper Cub	138	8	--	3	149
Piper Cub	129	2	4	4	139
Fairchild Hiller (helicopter)	267	2	17	41	327
Fairchild Hiller (helicopter)	249	33	53	9	344
Total	1,002	108	367	128	1,605

[1]All flights made to: enable the aircraft to be serviced, pick-up parts, deliver parts for other aircraft, or to provide return transportation for the pilot of a serviced plane.

Source: Compiled from DSP flight log data, fiscal year 1976.

The two Skylanes, however, flew just 61 and 54 hours on law enforcement missions--65 to 70% less than the average use for the other five aircraft.

Changing contractual obligations and a declining ROTC enrollment have affected the demand for aircraft at VPI&SU. The university operated four planes for nontravel-oriented missions during fiscal year 1976. A Cessna Skylane had been on contract with the U. S. Forest Service to perform surveillance and other forest service missions, but the contract was not renewed in 1976. Despite the lack of a contract, the university continued to maintain the Skylane until February, 1977. The plane was used less than 60 hours during the entire 14-month period. In February, 1977, the Skylane was sold. The following month, the university purchased a Cessna Skymaster for use in air pollution research.

Three Cessna 150 trainer planes are used for both ROTC training and for student flight instruction. In 1972, 30 students were in ROTC training under government sponsorship. During fiscal year 1976, however, only 16 students were enrolled in the ROTC flight training program.

AIRCRAFT COST

Aircraft can be costly to operate, maintain, and administer. In fiscal year 1976, the cost of supporting 22 agency aircraft was about $560,000. Since a large portion of the operating cost is borne by the General Fund, it is in the best interest of the State to use its aircraft in an efficient and economical manner. This can be accomplished by increasing passenger use of multi-passenger planes, coordinating aircraft scheduling, and encouraging employee use of State-owned aircraft where it is the least costly means of transportation. Available data indicate, however, that the large number of available agency planes has led to some inefficient and uneconomical use of the State's airfleet. Moreover, agencies which own passenger planes need to give greater consideration to other less expensive means of transporting employees.

Cost Differences

Operating costs for agency-owned aircraft vary significantly. As indicated in Table 5, the hourly costs of operating aircraft range from $30 to $300. Among the important factors accounting for this wide variation are fixed costs and size and type of aircraft.

Fixed Costs. Because VPI&SU owns an airport, the hourly cost of operating university aircraft is high when compared to other agencies. The chief reason for this difference is the airport's fixed costs, which include expenses related to maintenance,

Table 5

AIRFLEET COST
(Fiscal Year 1976)

Agency	Aircraft	Total Cost[1]	Total Hours	Cost Per Hour
State Corporation Commission	Beech King Air	$ 78,546	418	$ 188
	Beech Twin Bonanza	39,413	377	105
	Cessna Stationnaire	--	--	--
Department of Highways and Transportation	Turbo Commander	98,275	378	260
Department of State Police	Piper Aztec	10,558	100	106
	Cessna Skylane	8,576	252	34
	Cessna Skylane	7,328	139	53
	Piper Cub	5,095	155	33
	Piper Cub	4,992	149	34
	Piper Cub	4,983	139	36
	Fairchild Hiller (helicopter)	38,880	327	118
	Fairchild Hiller (helicopter)	31,101	344	90
Virginia Polytechnic Institute and State University	Aero Commander	51,656[2]	173	299
	Beech Queen Air	61,835[2]	249	248
	Cessna Skylane	15,283	51	300
	Cessna 150	16,693	176	95
	Cessna 150	19,134	308	62
	Cessna 150	18,273	252	73
	Cessna Skymaster	--	--	--
Commission of Game and Inland Fisheries	Piper Cub (float)	6,492	215	30
	Piper Cub	--	--	--
Marine Resources Commission	Cessna 182-D	20,831	340	61
Virginia Institute of Marine Science	DeHavilland Beaver[3]	20,634	344	60
TOTAL		$558,578	4,886	114

[1]Includes 297,611 in direct operating costs for gas and oil, insurance, maintenance, and hangar and pilot fees; and $260,967 in indirect costs for engine and fuselage depreciation and all personnel costs not directly chargeable to hours flown.
[2]VPI&SU contends that because these planes were "gifts", fuselage depreciation should not be charged. However, depreciation has been included on the assumption that the planes will be replaced. It is further assumed that replacement will not necessarily be through gifts.
[3]Calendar year 1976--estimate based on first six months data.

Source: Data obtained from the respective agencies, 1976.

supplies, utilities, and labor. For example, the VPI&SU Skylane was flown only one-third as much as the Skylane operated by the State Police in the Roanoke area. Nevertheless, the hourly cost of the VPI&SU plane was six times that of the DSP plane. Although the JLARC analysis distributed the fixed costs among the six VPI&SU planes, the university does not incorporate such costs in its fee schedule.

In a 1973 management study prepared by Donald Shaner and Associates, it was noted that VPI&SU was not charging sufficient revenues to offset an airport deficit of $56,000. Shaner recommended that the university increase its aircraft fees to make the airport operations self-supporting and not require subsidy from the General Fund. Apparently, this situation has not changed. During fiscal year 1976, the university reported expenses for aircraft operations of $199,000 and revenues of $101,000. Since the airport is costly to maintain, fixed costs should be included in aircraft fees. Otherwise, the difference between the airport's operating expenses and revenues must be absorbed by General and Special Fund accounts.

Size and Type. Not surprisingly, large, fully-equipped aircraft are more costly to operate and maintain than smaller planes. Engine replacement (often required between 1,000 and 3,500 hours) is expensive and fuel consumption is two to four times more than for smaller, utility aircraft. There are six such planes in use including the SCC Beech King Air and Twin Bonanza, the Department of Highways' Turbo Commander, the State Police Piper Aztec, and the VPI&SU Aero Commander and Beech Queen Air. All of these aircraft are used for passenger travel. Each of the planes has two engines and can accommodate at least four passengers. Because of the size and cost of these aircraft, it is economically important that when these planes operate as passenger aircraft, they are as near full capacity as possible.

Passenger Plane Cost and Use

Two measures can be used to evaluate the efficiency and economy of passenger planes: cost per seat mile and cost for actual passenger use of aircraft. On the basis of these measures, JLARC found that while some agency passenger planes are less costly to operate than others, passenger aircraft are often used uneconomically since many trips are made with unoccupied seats.

Seat Mile Cost. In order to determine the optimum cost of operating passenger-carrying planes, JLARC performed a cost per seat mile analysis for each multipassenger plane (Table 6). This analysis determines the optimum cost of flying one passenger a given distance in one hour based on a full passenger load, average cruise speed, and computed hourly cost. It can be expected that those aircraft with a small seating capacity, low average cruise speed, and high hourly cost will be more expensive to operate. The Beech Twin Bonanza, Beech Queen Air, and Aero Commander were found

Table 6

OPTIMUM COST PER SEAT MILE FOR MULTIPASSENGER STATE AIRCRAFT
(Fiscal Year 1976)

Agency	Plane	Maximum Seating	Avg. Cruise Speed (mph)	Cost/[1] Hour	Optimum Cost Per Seat Mile[2]
SCC	Beech King Air	8	242	$109	$.06
	Beech Twin Bonanza	4	175	75	.11
VPI&SU	Beech Queen Air	5	215	106	.10
	Aero Commander	5	215	125	.12
DHT	Turbo Commander	7	277	132	.07
DSP	Piper Aztec	4	180	42	.06

[1](Cost Per Hour = gas + oil + maintenance + insurance + engine depreciation ÷ total hours flown.)

[2]Assume that a plane can carry 4 passengers, fly at 100 miles per hour, at an hourly cost of $50. The procedure for calculating cost per seat mile is: ($50 ÷ (4 passengers x 100 mph)). The optimum cost would be $.125 per seat mile.

Source: Data provided by the respective agencies, the Federal Aviation Administration, and Beechcraft Aviation, 1976.

to be less economical to operate than the other passenger planes--even though the hourly costs were not excessively high. The limited seating capacity of the three aircraft accounts for most of the variation in seat mile cost.

Passenger Utilization Rates. Actual passenger use of planes, of course, will vary from maximum seating capacity. Rarely will a plane designed for eight passengers average this amount per flight. Table 7 shows that the passenger utilization rate during fiscal year 1976 was not high for any multipassenger State plane. Half of all flights in the Beech King Air, for example, had less than three passengers--five fewer than maximum capacity. Likewise, half of all flights in the Beech Twin Bonanza and Piper Aztec had less than one passenger per flight during fiscal year 1976.

Discussions with State officials revealed that there are two principal reasons for low passenger utilization of the three planes designated for agency use. First, many agencies are not aware of the availability of the SCC and DHT planes or of their eligibility to use them. The Governor's memorandum generally lists the priority of use of the three planes as: (1) the Governor and Cabinet Secretaries, (2) Division of Industrial Development, (3) the SCC, (4) DHT, and, finally, all other State departments and

Table 7

PASSENGER UTILIZATION RATES FOR MULTIPASSENGER STATE AIRCRAFT
(Fiscal Year 1976)

Agency/Plane	Maximum Seating	Average Number of Passengers Per Flight	% of Actual to Maximum	Median # of Passengers
SCC				
Beech King Air[1]	8	3.25	41%	2.70
Beech Twin Bonanza	4	1.73	43	.95
VPI&SU				
Beech Queen Air	5	2.85	57	2.55
Aero Commander	5	2.90	58	2.68
DHT				
Turbo Commander	7	N/A[2]	N/A[2]	N/A[2]
DSP				
Piper Aztec	4	1.66	42	.96

[1]Excludes Governor's flights but not Governor's office.
[2]Not available. DHT does not maintain records that reflect the number of passengers per flight.

Source: Compiled from agency flight log data, 1976.

agencies.[2] The memorandum also states that if the Beech King Air is unavailable, the Turbo Commander should be used. And, failing to get either of these planes, the Beech Twin Bonanza should be flown. Officials in the Division of Aeronautics claim, however, that many agencies believe that they are not considered priority users. Therefore, agencies do not readily request use of the planes. Moreover, DHT rarely allows use of its plane by any agency other than the Governor's office. During fiscal year 1976, "other State departments and agencies" used the three aircraft only 19% of the total hours flown, and only 3% of the time flown in the DHT Turbo Commander.

The second factor which contributes to low passenger use is that agencies are unsure about the number of other agency personnel scheduled to use SCC planes. This is important since the SCC charges a fixed hourly rate for each of its planes regardless of the number of passengers. Therefore, the greater the number of passengers, the cheaper the cost for each passenger. However, State agencies requesting use of the planes do not always know if there will be other passengers. While it is possible for the Division of Aeronautics to notify potential user agencies of other passengers scheduled for the same flight, the uncertainty of the final passenger list is often enough to force agencies to look elsewhere for other means of travel. Improved scheduling of SCC

and DHT aircraft could reduce agency uncertainty and result in greater use of passenger aircraft.

Comparative Costs of Passenger Transportation

Agency-owned passenger aircraft may not always be the most economical way to transport State personnel. At times, it may be less expensive to use other means of transportation such as private carriers or automobiles. This is recognized by Executive Order Number Thirty-Three which specifically states that "employees travel by the most economical means available".[3] It should be noted, however, that there are many factors which influence the cost of travel including speed, number of passengers, distance, passenger time and safety, cost of vehicles or aircraft, and convenience. Because there are so many variables, no one means of transportation will always be the least costly to any given location. For example, a State plane may be the only travel alternative available--such as to areas without commercial airline service--while on other occasions, a private carrier may be the most economical way to fly. In still other cases, urgency of State business will dictate the most expeditious means of travel regardless of cost.

There are several ways to compare the costs of flying agency aircraft with other modes of transportation over the same distance. Two methods were used by JLARC, both focusing on Richmond-based passenger planes:

- First, the costs of flying agency planes between Richmond and Washington, D. C, were compared with the costs of flying commercial carriers; and

- Second, the costs of traveling by commercial airline and State automobile were compared with the costs of flying the SCC Beech King Air to several different locations in the State including Washington, D. C. This method included passengers' time and expenses while enroute to and from the destination.

A first step in the analysis was to identify frequently-visited destinations of Richmond-based aircraft. During fiscal year 1976, passenger planes operating from Richmond flew to 116 different destinations a total of 785 times (Table 8). Flights to two locations, Washington, D. C. and Roanoke, accounted for almost 20% of all trips. About 17% of the flights were made to out-of-State locations (22 states).

The costs of flying to Washington, D. C. by State and commercial planes are compared in Table 9. As shown, unless State aircraft have three or more passengers, it is less expensive for employees to fly commercially between Richmond and Washington, D. C. However, of the round-trip Washington, D. C. flights made during fiscal year 1976:

- 40% of the SCC Beech King Air flights had one passenger;
- 57% of the SCC Beech Twin Bonanza flights had one passenger; and
- 71% of the DSP Piper Aztec flights had one passenger.

Additionally, many of the return flights to Richmond had no passengers. Savings available if these passengers had flown commercially rather than flying State aircraft range from $69 to $103 per flight.

Table 8

FREQUENTLY VISITED DESTINATIONS BY RICHMOND-BASED AIRCRAFT (Fiscal Year 1976)

Destination	No. of Trips	Destination	No. of Trips
Washington, D. C.	80	Abingdon, Va.	20
Roanoke, Va.	68	Briston, Va.-Tenn.	19
Norfolk, Va.	35	Blacksburg, Va.	17
Shenandoah Valley, Va. (Staunton)	32	Wise, Va.	16
		Charlottesville, Va.	16
Lynchburg, Va.	26	Melfa, Va.	16
Galax, Va.	25	Hot Springs, Va.	15
Newport News, Va.	24	Tangier Island, Va.	15
Winchester, Va.	24	Portsmouth, Va.	14
Dulles Airport (Va.)	22	Martinsville, Va.	13

Source: Data provided by SCC, DHT, and State Police flight logs.

Table 9

COMPARATIVE COSTS TO FLY ROUND TRIP TO WASHINGTON, D.C. FROM RICHMOND (Fiscal Year 1976)

Agency	Plane	Cost Per Passenger							
		1	2	3	4	5	6	7	8
(Commercial Airlines)		$ 52	$ 52	$ 52	$ 52	$ 52	$ 52	$ 52	$ 52
SCC	King Air	155	77	52	38	31	26	22	19
	Twin Bonanza	121	61	40	30	--	--	--	--
DHT	Turbo Commander	188	94	63	47	38	31	27	--
DSP	Piper Aztec	111	56	37	28	--	--	--	--

Source: Official Airlines Guide, December 1976; cost data provided by agencies, 1976.

Another way of comparing transportation costs is to include the passengers' time and expenses. In this cost comparison, passenger salaries are included even though the importance of salary or time lost is difficult to quantify. Some business organizations, for example, assess employee value by increments of two to three times the actual salary. This factoring is done to compensate for such benefits as more time to do primary work, increased productivity, and less fatigue.[4] The analysis in Table 10, however, is based on an average annual salary of $20,000, or about $9.60 an hour.

Travel costs were calculated for three types of transportation: automobile, the SCC Beech King Air, and commercial airlines. The Beech King Air was selected because it is the primary passenger plane for State employees in the Richmond area. Table 10 shows the results of the JLARC comparative analysis for Washington, D. C., Roanoke, and the Shenandoah Valley. The costs for State employees to travel to a given destination varied significantly. For example, if an employee needs to travel to Roanoke or Washington, D. C., it is more economical to fly commercially than by State plane.

Table 10

ANALYSIS OF COSTS BY MODE OF TRANSPORTATION
(Round-Trip from Richmond)

Destination	Mode of Transportation*	Cost Per Passenger 1	2	3	4	5	6	7
Washington, D. C.	Automobile	95	153	211	269	364	422	480
	King Air	181	211	241	271	301	331	361
	Commercial	83	166	249	332	415	498	581
Roanoke, Va.	Automobile	162	263	364	465	627	728	829
	King Air	221	251	281	311	341	371	401
	Commercial	115	230	345	460	575	690	805
Shenandoah Valley	Automobile	99	159	219	279	378	438	498
	King Air	184	218	252	286	320	354	388
	Commercial	197	394	591	788	985	1182	1379

*Costs were calculated as follows:
Automobile Cost = ($.15 x miles) + ($9.60 x hours) + meals.
King Air = ($137 x hours) + ($9.60 x hours) + limousine service.
Commercial = (Actual cost according to the rates as of August, 1977) + ($9.60 x hours) + limousine service.
(Time spent waiting, regardless of mode of travel, is not included in the cost analysis.)

Source: Cost data provided by agencies and Official Airlines Guide, 1976.

It is less costly in nearly every case for employees to drive to Washington, D. C. rather than fly the King Air or a commercial plane. On the other hand, where commerical airline service is not readily available, such as to destinations in the Shenandoah Valley, costs for State planes compare favorably with private carriers. Cost comparisons for other destinations produced similar results--sometimes it is less expensive to fly, sometimes it is less expensive to drive. It depends on the distances traveled, the number of passengers, the costs of operating the automobile or aircraft, and the availability of regularly scheduled airline service.

Although the travel cost analysis excluded such intangible benefits as convenience and time spent waiting, the comparisons demonstrate that potential savings are available if agencies give proper consideration to other, less costly means of transportation.

Two examples of agencies using State aircraft when commercial airline transportation would have been a cheaper alternative are described below:

- *The VPI&SU football team often plays games several hundred miles from Blacksburg. It is common practice to use university planes to transport passengers to these games. According to VPI&SU officials, an average of 120 to 125 players, personnel, students, and reporters attend football games. Since the largest commercial plane in the Roanoke-Blacksburg area can only accommodate 94 passengers, the university must rely on other planes or modes of travel to transport the remaining 25 to 30 people. Often, the university will use its executive plane to supplement the commercial airline.*

  This was the case in early November, 1975, when VPI&SU played the University of Houston. Five passengers were flown from Blacksburg to Hobby Field, Texas in the Aero Commander. The trip took almost 11 hours, and the bill to the Athletic Department was $860 (or $80 per hour). The actual hourly cost, however, was $299, for a total cost of $3,289. Therefore, the university indirectly subsidized the travel cost by nearly $2,500. Had these five passengers flown commercially, the total cost would have been about $1,070--$2,219 less than flying the Aero Commander.

- *The Department of Highways and Transportation uses its plane for executive travel. One trip using the Turbo Commander could have been made at considerably less expense using a commerical airline.*

The trip was made by two passengers, including a DHT administrator, to St. Louis, Missouri. An hourly charge of $140 plus pilot fees is normally assessed DHT personnel to use the plane. The trip took 5.1 hours which equals approximately $800 in charges. The actual hourly cost of operating the plane, however, is $260. Therefore, the trip cost about $1,326. The commercial fare would have been about $325.00--less than half of what DHT charged and over $1,000 less than the actual operating cost for five hours of flying time.

Such examples, even though not typical, amplify the need for State agencies to establish effective management controls to assure that employees adhere to the travel regulations contained in Executive Order Number Thirty-Three.

POLICIES AND GUIDELINES

A principal cause of uneconomic and inefficient use of agency aircraft is the general lack of policies and guidelines governing aircraft acquisition and use. Few controls have been imposed on agencies to justify aircraft need and to systematically monitor operating costs, type of use, and frequency of use. In the face of these limitations, the number of agency-owned aircraft has continued to grow dramatically. It is important, therefore, that greater attention be given to establishing policies and guidelines for managing the Commonwealth's aircraft.

Legislative and Executive Policies

Few policies have been developed to control agency acquisition of aircraft. Legislative direction is confined to one item, Section 5.1-4 of the *Code of Virginia*, which authorizes the SCC to purchase aircraft. Beyond this legislation, there is no statutory policy governing agency aircraft acquisition.

Review and Acquisition. A major gap in the Commonwealth's approach to aircraft management is the absence of a formal review procedure to evaluate agency requests for aircraft. Unlike other large and relatively expensive items such as automobiles and computers, which must be reviewed and approved for purchase by the Central Garage and the Department of Management Analysis and Systems Development, respectively, aircraft acquisition is largely the responsibility of individual agencies. This decentralized approach to acquisition can result in aircraft being purchased by agencies without a detailed State-level review of need and cost. For example, VPI&SU, using funds from its operating budget, acquired its Queen Air from a private corporation for "$1.00 and

other valuable considerations". Despite the "bargin" purchase, General and Special Fund appropriations to VPI&SU are used to operate and maintain the plane. Clearly, the lack of a central review mechanism to assess and evaluate State aircraft needs and the diffuse nature of aircraft purchasing signal a need for a more uniform approach to managing agency aircraft acquisition.

Aircraft Use. The availability of guidelines explaining the purpose and use of agency planes can prevent misuse of aircraft by employees. JLARC staff interviews indicate that only three agencies have such guidelines. The SCC is directed by legislation and executive memorandum to perform navigational aids maintenance missions as well as to provide transportation for the Governor and other State agencies. DHT must perform aerial photography and provide passenger transportation as outlined in the Governor's memorandum. And, DSP has internal guidelines dictating the purpose and use of its aircraft.

Some of the utilization patterns questioned during the fact-finding stage of this report stem from the absence of clearly defined agency policies regulating employee use of aircraft. For example,

- *A review of flight data provided by one State agency revealed that approximately one-fourth of all hours flown in the agency plane during fiscal year 1976 were for travel. Some of these flights transported passengers to meetings and conferences. Other trips, however, suggest that the plane was being used as a convenient means of personal transportation between the agency's principal office and the plane's base location. For example, flight data show that the agency administrator made 18 trips between the two locations after normal working hours with a return trip the following morning. Four such flights were made on or just before a State holiday.*

  The JLARC staff was told that this had been common and accepted practice in the past. However, the agency also indicated that there are no written policies or guidelines regarding use of the plane by personnel.

While JLARC is not recommending how planes should be used or minimum hourly usage rates, it is clear that agencies should develop appropriate criteria and guidelines which clearly identifies proper and improper uses of aircraft by employees.

Record Keeping

Accounting Systems and Cost Data. No guidelines have been established for uniform and consistent record keeping. As a

result, most of the aircraft cost data submitted by agencies to JLARC were inaccurate and understated the true cost of operating the Commonwealth's airfleet. The seven agencies listed expenditures of $381,364--$177,214 less than total direct and indirect costs for fiscal year 1976. This difference is due primarily to agencies excluding costs for pilot salaries, repairs, depreciation, and insurance.

DSP listed expenditures for its helicopters at $9,609 for fiscal year 1976. After questioning these figures, it was learned that the automated accounting system used by DSP excluded personnel, insurance, and depreciation costs which totaled $28,015 for the same period. Furthermore, during fiscal year 1976, repair costs for the helicopters were also excluded from reported expenditures. According to DSP officials, this cost item was not automated because the number was too large for the accounting program. Therefore, true costs of operating the helicopters was $69,981--more than seven times the figure originally reported. Other agencies, such as VIMS, MRC, and DHT excluded personnel costs from routine reports of aircraft costs.

It is recognized that some agencies do not report all indirect costs. For example, the SCC does not include depreciation of the King Air because the Govenor's budget will pay for the plane's replacement. Charges to agencies using the King Air, therefore, do not include depreciation costs. Nevertheless, agencies owning aircraft should account for all costs--direct and indirect--associated with aircraft operations. Once these costs are identified, agencies can then determine appropriate costs to include in charges for aircraft use.

The difference between reported and actual costs can have an impact on agency decisions affecting continued ownership of aircraft. For example, the Commission of Game and Inland Fisheries reported an hourly cost of $23 to operate its float plane. The actual hourly cost was $30-about $2 more than the cost to charter a float plane.

In other cases, where agencies charge special funds or contracts for the use of their aircraft, sizeable discrepancies exist between the amount charged and the actual cost to operate the aircraft. For example:

	Hourly Charge Rate	Actual Hourly Cost
VPI&SU		
Aero Commander	$80.00	$299.00
Beech Queen Air	$80.00	$248.00
MRC	$30.00	$ 61.00
VIMS	$30.00	$ 60.00

Since all of these cases show hourly charges to be substantially below actual costs, aircraft operations at the respective agencies must be subsidized with operating funds from other accounts.

Flight Records. Like cost information, agency flight data are of varying quality and comprehensiveness. All pilots are required by law to maintain a flight log book which remains with the aircraft. However, some agencies require more detailed information for agency records. The SCC, DSP, VPI&SU, and DHT, for example, file flight summaries which include destinations, date and time traveled, and occasionally, who traveled. MRC, VIMS, and CGIF, on the other hand, maintain no useful summary records except the aircraft log. It is, therefore, virtually impossible to determine who went where, at what time, for how long, and why--except by pilot recollection. As a result, review of aircraft use is, at best, determined by relying on pilot memory. A standardized flight log and mission travel data form would provide a valuable data base for aircraft management, and such a form should be developed.

CONCLUSION

Clearly established policies and guidelines are prerequisites for effective and efficient management of the State's airfleet. Of the 22 aircraft currently owned or operated by agencies, only three are statutorily authorized. Furthermore, only three agencies have written policies on the use of aircraft. Available evidence seems to indicate that the large number of State-owned aircraft may not be adequately justified in light of current use and changing program needs. As a result, some aircraft have been used inefficiently, uneconomically, or for purposes other than originally intended. Several alternatives are available to achieve better management of the State's airfleet.

Executive Agency Actions. As a first step, all agencies owning aircraft should be required to develop written policies on aircraft use and to establish uniform record keeping procedures. The Office of the Secretary of Administration (in cooperation with the Secretary of Transportation) could develop some general guidelines to ensure consistency among agencies. As a minimum, these guidelines would require agencies to:

- state the purpose of the aircraft;
- describe allowable uses;
- identify the base location of the aircraft;
- establish pilot qualifications and duties;
- establish acceptable record-keeping procedures for flight and cost data; and
- establish charges for other agency use.

In addition, the Secretary of Administration could also develop measurement criteria with which to evaluate current aircraft need. Criteria such as average cost of employee travel, average number of passengers per flight, or the number of flights per month might be used to periodically review and evaluate the level of use and continued need for agency aircraft.

An overall assessment of State aircraft need is also required. It is difficult to determine whether the State has too many or too few aircraft. Informed decisions about the need for additional planes cannot be made without such information. It is logical to suggest that the Secretary of Administration determine whether all existing aircraft are required and whether they should be replaced at the end of their effective equipment life. This decision will need to include a number of factors including: the purposes of agency aircraft, aircraft utilization, and the need for specialized aircraft.

Legislative and Executive Actions. Presently, agency aircraft operations are fragmented and decentralized. It is unclear whether this system of airfleet management is cost effective and efficient. The findings of this special report indicate a need for increased utilization, improved scheduling, and greater supervision of employee use of aircraft. Several options could be pursued to strengthen agency management of State-owned aircraft:

- One option is to require that agency acquisition of aircraft be approved by law--as is currently done with the SCC aircraft. This option would compel agencies to justify the need for aircraft and would limit the number of agencies operating aircraft. This option would directly involve the General Assembly in acquisition decisions.

- A second option would be to declare the acquisition of aircraft a capital outlay. As a capital project, all purchases would be extensively reviewed and approved by both the executive and legislature. It would also require agencies to provide added information on the fiscal impact of aircraft operations and maintenance.

- Thirdly, management of the State's airfleet could be centralized and operated along the lines of the Central Garage. Under this alternative, all aircraft would be purchased centrally and leased out as required. A central authority would be created, responsible for establishing guidelines for proper use, original and continued need, and type of plane required. It would also develop an appropriate billing rate and be responsible for aircraft maintenance and replacement. The SCC's Division of Aeronautics currently has much

of the expertise required for such a management program and might be given this additional charge.

- Finally, all initial aircraft purchases might be set out in the Appropriation Act and sufficient language might be included in the act's general provisions to require establishment of acquisition, use, and review guidelines.

It is suggested that the Secretary of Administration determine the most efficient and effective way of managing and organizing the Commonwealth's aircraft operations.

Commission Action

The information contained in this report was presented to the Joint Legislative Audit and Review Commission on October 24, 1977. The report was approved for release, and the following recommendations were adopted by unanimous vote of the commission:

1. The Secretary of Administration, in cooperation with the Secretary of Transportation should:

   - prepare general guidelines for agency aircraft use and record keeping;

   - require all agencies owning aircraft to develop written policies on aircraft use, charge rates, and record-keeping procedures, based on the guidelines;

   - conduct a comprehensive assessment of State aircraft needs which includes a determination of the most efficient and effective way of organizing and managing the Commonwealth's aircraft operations.

2. Pending completion of such action, the commission further recommends that all aircraft acquisitions be identified as a line item in the Appropriations Act, and that the Act's general provisions be amended to require the Governor to establish guidelines for the acquisition (by purchase or gift), use, and review of aircraft.

3. The Secretary of Administration, in cooperation with the Secretary of Education, should determine the need, if any, for aircraft at institutions of higher education. This review should include justification and any costs associated with the operation and maintenance of the aircraft.

END NOTES

1. Memorandum to Cabinet Secretaries and Heads of State Agencies from Governor Mills E. Godwin, Jr., February 2, 1976.

2. Ibid.

3. Executive Order Number Thirty-Three from Governor Mills E. Godwin, Jr., July 1, 1976, p. 4.

4. Office of the Legislative Auditor, State of Montana, *Department of Community Affairs Aeronautics Division*, "Report on the Effectiveness of the Aircraft Pool Law and Other Aspects of State Aircraft Operations", February, 1977. p. 46.

AGENCY RESPONSES

- Department of Highways and Transportation (A-1)
- Marine Resources Commission (A-3)
- Virginia Polytechnic Institute and State University (A-8)

- Telephone responses were received from:

  - State Corporation Commission
  - Department of State Police
  - Division of Planning and Budget

COMMONWEALTH of VIRGINIA
DEPARTMENT OF HIGHWAYS & TRANSPORTATION
1221 EAST BROAD STREET
RICHMOND, 23219

IN REPLY PLEASE REFER TO

October 19, 1977

Mr. Russell T. Larson
Associate Legislative Analyst
Joint Legislative Audit and Review Commission
Suite 200, 823 East Main Street
Richmond, Virginia 23219

Dear Mr. Larson:

I appreciate your sending me a copy of your letter dated October 14, 1977, to Mr. Curtis Pfeiffer, advising that you were enclosing an Exposure Draft on "Use of State-Owned Aircraft" for his review and requesting comments by October 20, 1977.

Mr. Pfeiffer is away from the office until after October 20, and I would like to make a few comments on the report.

From our viewpoint, the statements made concerning the operation of the Department's Turbo Commander aircraft are essentially correct and properly reflect the utilization of the aircraft.

Some comments appear to be in order to provide additional information on the peculiar requirements relating to the photographic mission of the aircraft. The Department's justification for the plane is based on its use as an engineering tool for aerial surveying, mapping and photography; and, for this purpose alone, the savings in time and manpower have been calculated in the millions of dollars. Personnel transportation, except for requests from the Governor, is secondary to the photographic mission.

It should also be realized that many of the personnel flights are made in conjunction with photographic missions or during periods when weather conditions preclude photography. Since aerial photography is dependent upon the weather and is the basis for aircraft ownership, it is essential that scheduling of flight operations be under the control of this Department.

In addition, much of the photographic work is performed on highway projects utilizing Federal funds, and the proportional cost of aircraft operations is reimbursable from Federal funds apportioned to Virginia, making it necessary for record keeping, accounting and billing to be a part of the project records.

On the comment relating to a trip to St. Louis by the Commissioner, this was a very unusual situation. At the time, the Commissioner was a member of the Executive Committee of the American Association of State Highways and Transportation Officials and had made reservations on commercial airlines. Due to reasons beyond his control, the commercial flight was cancelled or delayed beyond the time for him to be present. The Department's plane was utilized in order to make the appointment. We are very conscious of the need to utilize commercial transportation where it can provide the necessary service.

I appreciate the opportunity to comment on the report.

Sincerely,

John E. Harwood, Commissioner

cc - Mr. Curtis E. Pfeiffer

COMMONWEALTH of VIRGINIA

MARINE RESOURCES COMMISSION
P. O. BOX 756
NEWPORT NEWS, VIRGINIA 23607

OFFICE OF THE COMMISSIONER

October 17, 1977

Mr. Russell Larsen
Joint Legislative Audit and Review Commission
Suite 200, 823 E. Main Street
Richmond, Virginia 23219

Dear Mr. Larsen,

Since our brief chat via telephone last Thursday I have had the opportunity to talk with our pilot, Mr. Walker, and I believe I am in a better position now to understand the nature of your review of State aircraft. With your permission I would like to share some of my thoughts as to the advantages of an airplane to my Commission and why we use it in the manner we do. I realize this will be a lengthy letter, but thought it best to communicate in this manner which will give you the advantage of being able to refer to my comments rather than some notes that you might take from conversation.

Let me start with the National Shellfish Sanitation Program, which is probably the premier mission of the airplane. A little history will place this in better perspective for you. The NSSP is a triparte program between the Federal Government (represented by the Food & Drug Administration), the State Government (represented by the Health Department and Marine Resources Commission), and Industry. With the overall lead role, the FDA has the task of insuring State & Industry compliance with certain shellfish standards. The key element in the entire NSSP is the classification of growing waters. This is done by the Health Department, and my Commission agrees to patrol condemned areas to insure that there is no illegal harvesting from condemned areas.

In 1972, Virginia's NSSP came under severe attack from FDA. The State was put on notice to improve in its classification and patrol or face decertification from interstate shipment of all shellfish products. The General Assembly hastily appropriated over one million additional dollars, the Health Department hastily condemned extensive additional acres (including the upper reaches of the James and Rappahannock Rivers), and I hastily upgraded our patrol facilities. We were required to patrol extensive new areas with much greater frequency and with a new emphasis on night, weekend, and holiday patrol. New boats, more men to crew them, and radar are nice, but one of our prime weapons is clearly the airplane. When one compares the area covered per unit of time and cost of an airplane and a boat the airplane is so far superior it is ludicrous. Of course, night patrol by airplane is next to

impossible, and I will admit to the difficulty of issuing a summons via airplane (it can be done however!).

Our pilot has a full volume of condemned area charts, and he is instructed to include the mission of condemned area patrol in every flight he takes. In addition he is to conduct routine patrols of specific areas on an agreed upon frequency with FDA officials. The effectiveness of air patrol can best be illustrated by the very first flight made up the newly condemned James River when illegal harvesting was detected, ground units sent to the area, and corrective action was taken. Since that time the airplane has detected several other violations in remote areas not usually frequented by our boats or ground units. In a real sense it is next to impossible to gain surprise with a police boat. No matter how fast the boats are the suspect will nearly always have time to cease the illegal activity. But the airplane can give surprise. The bottom line, and a point you should bear in mind as you attempt to validate the various uses of our airplane, is that the condemned area patrol mission is always being performed every time we put the airplane in the air!

1972 was a big year for us since that is when the Wetlands Act was handed to the Commission and suddenly our environmental mission took on exceptional proportions as people sought an increasing number of environmental permits to conduct projects at the waterfront and in our waters. Aerial photography became, and still is, an essential mission of the airplane. Until someone has had the experience of trying to comprehend the nature of a project from a) plans, b) surface photos, and c) aerial photos it is difficult to understand the impressiveness of aerial photos. (I have been amused more than once by applicants for permit coming to our meetings and being astonished by the clarity and impact of our aerial photos.). The review of environmental damage as the result of a disaster is an unenjoyable mission, but nevertheless one well suited for aerial work. The damage done to Eastern Shore marshes by oil spilled from a barge in early 1976 was something this Commissioner specifically viewed! The airplane is also most valuable in detecting illegal dredge and fill operations. Through constant flying our pilot is well acquainted with the various land masses and waterways of Tidewater, and on more than one occasion has detected the beginnings of alteration. An engineer is called to the scene and more often than not we are able to guide an eager landowner to the proper channels. Like the NSSP, these environmental missions are always being performed every time we put the airplane in the air!

Of historical prime importance, but now having to share its importance, is fisheries patrol. The nature of this patrol will be dependent upon the season. Examples would be to keep a watch on the menhaden fleet to insure they are not in any proscribed areas; checking on the offshore three-mile limit to keep illegal trawlers out; and the constant vigil for those using the washing action of propellers to harvest clams on Seaside of Eastern Shore. This latter problem has

been particularly vexing. The airplane is the very best vehicle for this work for the sediment plume caused by the washings is quite visible from the air. Thanks largely to the dedication of Mr. Walker we are having some success in this area. The airplane is also the perfect vehicle for reporting fishing activity, boat counts, etc.

Transportation is likewise an important function. One has but to look at the Chesapeake Bay and numerous tributaries forming jagged land masses with few direct routes and many bridges (and tolls) to realize the immediate value of air travel. Savings in time and money are readily apparent, especially in travel between the Western and Eastern Shore. (Take into account the toll, soon to be raised, of the Chesapeake Bay Bridge-Tunnel!). Some comparative times are interesting: from Patrick Henry Field at Newport News to Kellam Field on the Eastern Shore is an average of eighteen (18) minutes flying time, and is over two (2) hours by automobile; from Norfolk Regional to Accomack County Airport at Melfa is twenty-five (25) minutes flying time and about two (2) hours by automobile; from Accomack County Airport to Tangier is ten (10) minutes flying time and can otherwise only be reached via boat with the fastest taking close to one (1) hour.

The Commission is extremely liberal with the use of its airplane. I am sure that Mr. Walker can add more users, but a list immediately off of the top of my head would include, Virginia Institute of Marine Science, State Health Department, County officials, Legislators, Office of the Secretary of Commerce & Resources, State Water Control Board, Federal officials, and during the recent winter seige the Accomack County Administrator was given permission to deploy the airplane at his command. I am pleased that we were able to be a part in taking food to and sick off Tangier Island.

One point on which I feel very strongly is safety. I hope your study will include the minimum standard equipment (including electronics) that should be in every airplane owned by the State. It is not only a matter of the safety of State employees but contributes to overall air safety within the State.

The basic use of the airplane has been the same under this Commissioner's administration as it has been under past Commissioners! The airplane has always been stationed at Kellam Field, generally out of consideration to Tangier and the proximity of the vast Seaside area. That the total hours of usage is probably much greater now than in the past is likely the most appreciable difference in use.

Messrs. Hickman and Lankford, my immediate predecessors, as well as the two before them were all residents of the Eastern Shore. I also am a resident of the Eastern Shore (the Report of the Secretary of the Commonwealth carries my official address as Nassawadox). But unlike my predecessors, all of whom continued to reside on the Shore and commuted to Newport News for only a few days per week at the Commission's main office, I have reversed that procedure by establishing an apartment in Newport News and maintaining a residence with my parents

in our family home on the Eastern Shore. This has provided me the opportunity to give better service to the Commission. Nevertheless it is absolutely necessary that I remain in close personal contact with the Eastern Shore! The constituancy there has come to expect it, and it will be extremely difficult if not impossible to wean them. Already I have been criticized in some quarters of the Shore for my lack of personal appearance and attention. People still frequently call for me at my family residence and rely on my father to pass on the message when next I am at home on the Shore.

Once a month, on the fourth Tuesday, the Supervisor for the Eastern Shore, Edgar Miles, comes to Newport News, and once a month, or more often if possible, usually on the second Monday, I journey to the Eastern Shore. This date is very convenient to me and permits me to attend to other business obligations, but more importantly gives Supervisor Miles a reliable time and date for discussion of matters relative to his area. Supervisor Miles lives only six (6) miles from my residence, so quite frequently we are able to have personal discussion. Otherwise there are rare Mondays that we don't converse at least by phone. On occasion our problems require either lengthier or more frequent visits such as during that period of time one of our inspectors was reporting repeated and constant attacks. We engaged the State Police and local Sheriff's office, and my visits and communication with Supervisor Miles definitely increased. One other occasion of frequent contact occurred when one fisherman attempted to gain control over all one hundred fish traps on the Bayside of Eastern Shore. My travel to the Shore is also often required to board the "Chesapeake", which is our flagship and used to carry officials and other dignitaries.

Recognizing that you were specifically interested in certain flights from Newport News to the Eastern Shore, I have personally inquired of Supervisor Miles and as suspected he has no diary or other documentation that would give us an exact answer as to the type of business conducted, but would agree with my general assessment as previously stated. I would also point out that not infrequently watermen or other industrymen stop to see me on those evenings (generally at Supervisor Miles' insistence). I can vividly recall a number of such visits several years ago when clam washing was at its zenith.

As the management of the agency increases in complexity, time becomes more essential, and the use of the airplane (with its 18 minute v. 2+ hours auto travel time) permits me to remain longer in and return sooner to the main office here in Newport News and yet serve the Eastern Shore interests appropriately. Another excellent example of the time advantage afforded by the airplane is our increasing reliance on it to transport the Virginia Commissioners to the Potomac River Fisheries Commission. Again at least two hours time savings are realized. I deem such time savings through use of the airplane to definitely be in the best interests of the Commonwealth, and I know that the Associate Members agree.

There is also a certain intangible that is required of any Commissioner, and that is to have a certain sense and feel for what is going on about the water, and the only way to do this is to get out of the office and into the field. The airplane affords an opportunity for this while enroute, and next to actually being on a fishing boat the best visual knowledge can be gained while your airplane is circling a boat hauling in its catch. Seldom do I fly a direct route, for if there is activity below I will instruct the pilot to let me view it. Yet nothing is quite so illustrative as being right alongside in another boat. Holiday and weekend field trips are not at all uncommon for me. As previously stated, most watermen work through holidays, and since our office is closed, I often call a boat (or sometimes the plane) to take a trip. Interestingly just last Monday (Columbus Day) I went out among the James River oyster tongers and talked with the buyers about market conditions. The point is that a Commissioner needs to be in contact with his domain, and travel via the airplane affords him part of this contact. Furthermore, the importance of this intangible requirement should not be taken lightly!

Perhaps by the time you receive this letter I will have already talked with you concerning some of the flights and dates on which you had requested additional information. Having reviewed each date in the light of other information that helped me recall some of the specific events or problems at the time, I am now much better able to acquaint you with information that may be of help to you in categorizing those flights. In any event, I do have additional information that I wish to share with you.

In the final analysis, the Commission and I feel that the airplane is but one very valuable resource that we have at our command to use in our general mission of the protection and conservation of the marine resources of the Commonwealth. We do not hesitate to use it; infact, we encourage its use whenever possible because of the functions previously mentioned that are <u>always</u> being performed every time it is in the air.

I trust that Mr. Walker and the other members of my staff with whom you have talked have been courteous and helpful, and if I can be of further assistance please do not hesitate to call.

Sincerely,

James E. Douglas, Jr.
Commissioner

JED:pal

VIRGINIA'S LAND-GRANT UNIVERSITY

VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY

Blacksburg, Virginia 24061

OFFICE OF THE PRESIDENT

October 19, 1977

Mr. Russell T. Larson
Associate Legislative Analyst
Joint Legislative Audit and Review Commission
Suite 200, 823 East Main Street
Richmond, Virginia 23219

Dear Mr. Larsen:

Thank you for your letter of October 14 transmitting the Exposure Draft on "Use of State-Owned Aircraft." We appreciate the opportunity to comment on it. We received the draft on the afternoon of October 17 with the request that we furnish you our comments by October 20, and have analyzed it as well as we could in the time frame allowed.

There are several basic points we would like to make concerning the overall draft. After making those points, we would like to show how they would affect the various segments of the report.

First, as a basic point, we would like to raise a question about the fact that much of the draft is based on hourly costs of flying State-owned aircraft. Although the logic of this basis is clear, it tends to be confusing, in that the more an aircraft flies, the lower is the hourly cost, and the greater is the total cost. At VPI, we monitor the flights of our aircraft carefully and discourage use of the aircraft except when it is justified on a basis of savings in either money or executive time. This policy, although it tends to increase the hourly cost, results in a financial savings to the Commonwealth. Your report, based as it is on hourly costs, tends to suggest that the opposite is true.

Closely related to this is a second basic point: the very significant savings in executive time that is afforded by use of State-owned aircraft. The president, vice presidents, deans and other leaders of the University frequently use our travel aircraft at a considerable and valuable saving in time. This is especially important to us because of our location. For instance, when several of our executives attend a meeting (of one or two hours usually) in Richmond, they would lose an entire day of work by traveling commercially; by using the University aircraft they lose only a half day. When we attend night meetings elsewhere in the state, a frequent occurrence, use of the University aircraft will save not only significant working time but also expenses of overnight accommodations. We consider the saving of executive time as one of the most important justifications of our travel aircraft; yet we do not find this justification in the draft report.

A third basic point that applies to our particular situation is that both of our travel aircraft were gifts to the University. We began our travel aircraft program with the gift of an aircraft; we have replaced one aircraft and added a second one through gifts; we do not plan to purchase replacement aircraft for our existing aircraft unless it is through additional gifts. This fact has an important bearing on our total program. It means that there is no fuselage depreciation of our travel aircraft. Although we agree with you that our utilization (which we intentionally keep rather low) may not justify two travel aircraft, we would not have two aircraft except for the fact that they were gifts. We are now carefully studying the alternatives.

A fourth basic point concerns the statement in the draft that we use General Fund appropriations to subsidize the operations of our aircraft program. Actually, any subsidy would be from Special Funds, which include federal funds, tuition fees, and other sources of revenue, as well as General Funds. Therefore, any subsidy from General Funds would be considerably less than that reflected in your report.

A fifth and final basic point relates to our policy of charging $80 per flying hour. Actually, of course, the cost of operating our travel aircraft is covered entirely by a combination of private, Special and General Funds. The $80 hourly charge is an internal charge which by our calculations exceeds the direct cost of operating the travel aircraft, and is designed to strike a balance between sharing the costs among the users, on the one hand, and encouraging efficient utilization on the other. If the charge were based on the total cost of airport operations, utilization would drop; hourly costs would increase sharply; and the time savings of the program would be lost. Hence, the rate amounts to a University policy which is justified, as you point out, by the urgency of business and the location of the University.

We believe that a number of changes should be made in the draft report because of the basic points outlined above. Following are our suggestions for changes:

Page 3: Table 2 shows the "approximate value at acquisition" of our two travel aircraft as $150,000 and $195,000, respectively. To make clear that these funds were not expended, and to eliminate the impression that these figures represent a cost to the State, we believe the table should state (either in parentheses after the figures, by asterisks, or by substitution for the figures) that both planes were gifts.

Page 5: In the Section on "Passenger Travel," we believe the report should reflect the importance of saving executive time with use of State-owned aircraft. As indicated earlier, we consider this one of the most important justifications of our travel aircraft, particularly because of our isolated location. It should be emphasized in your report, although, of course, where you wish to place this information in the report is not important.

Page 5: In the last paragraph concerning our two travel aircraft, we believe again that it should be pointed out that both aircraft were gifts. The inference here is that we purchased an additional aircraft that is not justified; actually, since both were gifts, we did not. The second aircraft unquestionably is helpful when the first is grounded, but we would not have purchased it for that purpose.

Page 8: In the first paragraph, concerning our Cessna Skylane, we would like to add the point that we held onto the aircraft for 14 months in anticipation of renewal of the contract or a similar contract. It was finally sold for $14,703, compared to the $17,950 purchase price, which resulted in a $541 annual depreciation of both fuselage and engine over the six years the University owned the aircraft.

Page 8: In the second paragraph concerning our trainer planes, we would like to add the point that, in view of the declining enrollments in flight instruction, we are considering eliminating this instruction program and getting rid of these planes, just as we consider eliminating any instruction program that shows signs of non-productivity. Because of the characteristics of the program, several aircraft are necessary if the program is to continue.

Page 9: In Table 5, footnote #1 indicates that fuselage depreciation is included as a part of total cost. At VPI, because our travel aircraft are gifts, there is no fuselage depreciation. Therefore, fuselage depreciation, of course, should not be included as a part of the cost.

Page 10: In the first full paragraph (beginning: "In a 1973 management study..."), we believe the explanation should be given for our funding of operations of the travel aircraft. This explanation is given in the fifth basic point above, i.e., that the entire cost of the travel aircraft operation is funded from several sources of funds, and that the charge is an internal one which covers direct costs and is designed to strike a balance between sharing costs, on the one hand, and encouraging efficient utilization on the other.

Page 10: In that same paragraph, the two references to a "subsidy from the General Fund" are inaccurate; actually, any subsidy would be from Special Funds, including federal funds and student fees, as well as General Funds.

Page 16: The reference to use of our travel aircraft by our football team should be clarified by several additional points. First, the Athletic Association uses private funds in paying for use of the State-owned aircraft. Second, University officials, including the President, travel to football games for public relations, fund raising and other purposes that are justifiable at State expense, on aircraft supplied by the Athletic Association, at no cost to the State, offsetting expenses of athletic officials who use the State-owned aircraft. A third point that might be added is that we are reviewing this practice of use by the Athletic Association of State-owned aircraft. Finally, of course, the use of the hourly cost here again tends to be confusing; greater utilization would decrease the hourly cost but would add to the total expense.

Page 17: The last two lines (and top of page 18) indicate that our Queen Air was purchased "for $1.00 and other valuable considerations." Actually, we believe it would be more meaningful and accurate to report that the Queen Air was a gift.

Pages 18 and 19: The discussion of "Record Keeping" and "Accounting Systems" should include, we believe, some of the information supplied in our first basic point, outlined above; i.e., the "actual hourly cost" given in the table on Page 19 tends to be confusing, in that decreasing hourly cost does not decrease total cost; it actually increases it. In addition, some of the information in our fifth basic point, explaining our $80 hourly charge, might be included in this part of the report.

We consider these points of great importance and hope you will reflect them in the final draft. The report includes many good suggestions and much valuable information; we believe, however, that unless the points we have outlined above are included, the report will not represent a completely accurate picture of the use of State-owned aircraft.

Sincerely,

W. E. Lavery

W. E. Lavery
President

mwt

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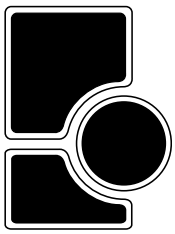

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