

IOWA STATE LAW LIBRARY

State Aircraft Study

Report to Members of the  
75th Session of the 66th G.A.

State of Iowa

Prepared by  
Iowa Department of General Services

April 1, 1975

STATE OF IOWA  
DEPARTMENT OF GENERAL SERVICES

STATE CAPITOL BUILDING • DES MOINES, IOWA 50319 • (515) 281-3196

HON. ROBERT D. RAY  
Governor

STANLEY L. McCAUSLAND  
Director

JERRY D. GAMBLE  
Financial Officer


April 17, 1975

TO: The Honorable Members of the 65th General Assembly

In accordance with Chapter 1006, 65th General Assembly, 2nd Session, 1974, I am respectfully submitting the results of the State Airplane Study conducted by this office.

If there are further questions regarding the results of this study, please contact me at any time.

Sincerely yours,

  
Stanley L. McCausland  
Director of General Services

SLM/cy

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### APPENDIX

## Analysis of 1973-74 Out-of-State Commercial Airline Travel

In order to arrive at basic aircraft decisions required by Chapter 1006, 65th General Assembly, 2nd Session, it was necessary first to have knowledge of the travel patterns of State employees. The basic data used for this report was an accumulation of out-of-state travel claims authorized by the State Executive Council for the Fiscal Year 1973-74. Work sheets compiled by the State Auditor containing the employee name, department, number of mandays, beginning date of trip, destination, and actual cost of the out-of-state commercial airline ticket, were keypunched and used as input data for programs designed by the Department of General Services. This data did not include out-of-state trips using state aircraft and there was no attempt made to determine whether the expenditures were made from general, trust, or special funds. The Board of Regents Institutions were not included in the data.

Schedule A reveals that \$330,796.17 was spent in Fiscal Year 1974 for out-of-state commercial airline tickets and there were 2,638 separate trips. Even though the same individual could have taken several trips during the year, Schedule A is accumulated on the basis of one passenger for each trip; consequently, 2,638 employees took 2,638 separate trips with a total of 11,083 number of mandays spent on a travel status. The average number of mandays per employee spent at any destination was 4.2 days, the Department of Social Services, Public Instruction, Development Commission, Highway Commission, Health, Planning and Programming, Employment Security, Public Safety, General Assembly and Conservation Commission account for 54.5% of the total trips taken, 53.0% of the total mandays spent traveling, and 54.5% of the total cost of commercial air travel for 1973-74.

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Schedule A  
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DEPARTMENT	No. of Trips	% of Trips	No. of Mandays	% of Mandays	Cost	% Cost
Social Services	362	13.7	1294	11.6	44,170.00	13.0 %
Public Instruction	226	8.5	944	8.5	29,877.17	9.0
Development Commission	136	5.1	593	5.3	20,436.74	6.1
Highway Commission	124	4.7	507	4.5	15,786.16	4.8
Health Department	123	4.6	584	5.2	14,543.27	4.3
Planning & Programming	131	4.9	440	3.9	14,379.04	4.3
Employment Security	108	4.0	500	4.5	13,618.43	4.1
Public Safety	80	3.0	373	3.3	12,133.57	3.6
General Assembly	81	3.0	275	2.4	11,744.78	3.5
Conservation Commission	81	3.0	425	3.8	11,360.95	3.4
Environmental Quality	102	3.8	383	3.4	9,940.20	3.0
Department of Agriculture	77	2.9	427	3.8	9,636.83	2.9
Commerce Commission	81	3.0	245	2.2	8,769.54	2.6
Attorney General	60	2.2	234	2.1	8,767.86	2.6
Insurance Department	60	2.2	235	2.1	7,029.32	2.1
Comptroller	56	2.1	205	1.8	6,721.45	2.0
Department of Revenue	57	2.1	380	3.4	6,182.64	1.8
General Services	45	1.7	162	1.4	6,126.73	1.8
Bureau of Labor	56	2.1	472	4.2	5,526.61	1.6
Board of Regents	34	1.2	98	0.8	4,223.43	1.2
Vocational Rehabilitation	33	1.2	147	1.3	4,133.63	1.2
Geological Survey	30	1.1	104	0.9	4,084.01	1.2
Crime Commission	28	1.0	89	0.8	3,126.27	0.9
Commission on the Aging	32	1.2	119	1.0	3,052.45	0.9
Vocational Ed. Advisory Council	20	0.7	69	0.6	2,666.36	0.8
Fair Board	15	0.5	76	0.6	2,608.10	0.7
Soil Conservation	21	0.8	82	0.7	2,587.61	0.7
Architectural Examiners	15	0.5	70	0.6	2,508.16	0.7
Natural Resources	17	0.6	67	0.6	2,353.94	0.7
Legislative Service Bureau	18	0.6	58	0.5	2,269.08	0.6
Iowa Arts Council	19	0.7	62	0.5	2,205.10	0.6
Office of the Governor	13	0.4	42	0.3	2,186.30	0.6
Banking Department	17	0.6	72	0.6	2,180.19	0.6
Commission for the Blind	17	0.6	72	0.6	2,095.49	0.6
Drug Abuse	19	0.7	60	0.5	2,060.51	0.6

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Schedule A  
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DEPARTMENT	No. of Trips	% of Trips	No. of Mandays	% of Mandays	Cost	% Cost
District Court Judges	9	0.3	121	1.0	2,034.42	0.6
Engineering Examiners Board	13	0.4	53	0.4	1,870.37	0.5
Civil Rights	17	0.6	55	0.5	1,830.51	0.5
Employment of the Handicapped	13	0.4	58	0.5	1,778.94	0.4
State Library	10	0.3	48	0.4	1,621.20	0.4
Real Estate Commission	11	0.4	46	0.4	1,614.34	0.4
State Auditor	10	0.3	53	0.4	1,526.94	0.4
Public Defense - Military	19	0.7	97	0.8	1,397.43	0.4
Legislative Fiscal Bureau	16	0.6	68	0.6	1,354.15	0.4
Interstate Cooperation	14	0.5	52	0.4	1,350.35	0.4
Higher Education	10	0.3	25	0.2	1,227.03	0.3
Beer & Liquor Control Department	4	0.1	22	0.2	1,071.57	0.3
Alcoholism	7	0.2	34	0.3	1,066.39	0.3
Board of Nursing	5	0.1	22	0.2	878.91	0.2
Supreme Court Justices	5	0.1	29	0.2	864.79	0.2
Parole Board	6	0.2	26	0.2	849.41	0.2
Reciprocity Board	5	0.1	14	0.1	795.07	0.2
Pharmacy Examiners	8	0.3	40	0.3	743.25	0.2
Medical Examiners	8	0.3	33	0.3	727.61	0.2
Status of Women	8	0.3	20	0.1	699.70	0.2
Public Defense - Civil	6	0.2	35	0.3	545.73	0.1
Mississippi River Parkway	2	0.0	10	0.0	422.36	0.1
Board of Accountancy	5	0.1	20	0.1	408.89	0.1
Service Compensation	5	0.1	16	0.1	405.36	0.1
Uniform Laws	2	0.0	19	0.1	396.08	0.1
Library - Law	3	0.1	16	0.1	379.11	0.1
Merit Employment	4	0.1	12	0.1	337.87	0.1
Bicentennial Commission	5	0.1	9	0.0	279.84	0.0
State Treasurer	1	0.0	4	0.0	234.54	0.0
Aeronautics Commission	4	0.1	10	0.0	234.54	0.0
Office of the Secretary of State	2	0.0	11	0.1	227.85	0.0
Historical Society	1	0.0	3	0.0	154.55	0.0
Library - Medical	1	0.0	8	0.0	123.03	0.0
Spanish American War Veterans	1	0.0	8	0.0	106.80	0.0
Industrial Commission	3	0.1	18	0.1	93.40	0.0
Citizens Aide	1	0.0	3	0.0	51.92	0.0
	<u>2,638</u>	<u>96.4</u>	<u>11,083</u>	<u>96.8</u>	<u>330,796.17</u>	<u>96.5</u>

Schedule B shows the destinations most frequently traveled and the total cost in descending order. Please note that all destinations are not listed; however, the ones listed account for 74.8% of all the employees and trips taken and 71.0% of the total cost. It can be concluded from Schedule B that the most frequently traveled destinations are Washington D.C., Chicago, Illinois, Denver, Colorado, and Kansas City, Missouri.

On the average there were 7.3 trips per week to Washington D.C., 6.6 trips per week to Chicago, 2.4 trips per week to Denver and 4.8 trips per week to Kansas City. To understand the impact of this information and to discuss the economics of providing similar air service using state aircraft, further investigation was needed as shown in Schedule C and Schedule C-1.

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Schedule B  
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Out-of-State Commercial Air Travel Cost by Destination for Fiscal 73-74

Destination	No. of Employees & Trips	% of Employees & Trips	No. of Mandays	% of Mandays	Cost	% Cost	Avg. Cost per Trip per Employee	Avg. # of Trips per Week	Avg. No. Roundtrip Mandays per Trip	Stat. Miles to Destination	Total Statute Miles Traveled
Washington D. C.	382	14.4	1416	12.7	59,719.48	18.0	156	7.3	3.7	1792	684,544
Chicago, Ill.	344	13.0	1400	12.6	26,155.13	7.9	76	6.6	4.1	598	205,712
Denver, Colorado	123	4.6	466	4.2	14,735.62	4.4	120	2.4	3.8	1188	146,124
New Orleans, LA	75	2.8	397	3.5	12,094.17	3.6	161	1.4	5.3	1618	121,350
Kansas City, Kansas	248	9.4	651	5.8	11,283.68	3.4	46	4.8	2.6	314	77,872
Miami, FA	44	1.6	248	2.2	10,592.47	3.2	241	0.8	5.6	2610	114,840
San Francisco, CA	42	1.5	223	2.0	10,143.68	3.0	242	0.8	5.3	3150	132,300
Atlanta, GA	61	2.3	273	2.4	9,142.07	2.7	150	1.1	4.5	1484	90,524
Seattle, Washington	36	1.3	186	1.6	8,603.85	2.6	239	0.7	5.2	2906	104,616
Dallas, Texas	58	2.2	283	2.5	8,056.49	2.4	139	1.1	4.9	1250	73,750
Los Angeles, California	36	1.3	202	1.8	7,976.12	2.4	222	0.7	5.6	2908	104,688
St. Louis, Missouri	95	3.6	315	2.8	6,135.32	1.8	65	1.8	3.3	468	44,460
Boston, Massachusetts	27	1.0	127	1.1	5,535.98	1.6	205	0.5	4.7	2330	62,910
New York City, N.Y.	32	1.2	144	1.3	5,520.50	1.6	173	0.6	4.5	2034	65,088
Minneapolis - St. Paul	98	3.7	326	2.9	5,515.94	1.6	56	1.9	3.3	516	50,568
Las Vegas, Nevada	28	1.0	155	1.4	5,394.36	1.6	193	0.5	5.5	2436	68,208
Portland, Oregon	21	0.8	112	1.0	5,342.48	1.6	254	0.4	5.3	2940	61,740
Salt Lake City, Utah	24	0.9	107	0.9	3,892.78	1.1	162	0.5	4.5	2070	49,680
Phoenix, Arizona	16	0.6	66	0.6	3,533.14	1.0	221	0.3	4.1	2280	36,480
Houston, Texas	20	0.7	123	1.1	3,370.69	1.0	169	0.4	6.2	1634	32,680
San Diego, California	11	0.4	58	0.5	2,617.80	0.7	238	0.2	5.3	2850	31,350
Albuquerque, N.M.	17	0.6	83	0.7	2,454.34	0.7	144	0.3	4.9	1680	28,560
Spokane, Washington	11	0.4	47	0.4	2,453.72	0.7	223	0.2	4.3	2500	27,500
Philadelphia, PA	16	0.6	77	0.6	2,418.89	0.7	151	0.3	4.8	1954	31,264
Omaha, Nebraska	75	2.8	228	2.0	2,406.46	0.7	32	1.4	3.0	220	16,500
Detroit, Michigan	20	0.7	127	1.1	2,243.26	0.6	112	0.4	6.3	1060	21,200
San Antonio, Texas	14	0.5	68	0.6	2,209.81	0.6	158	0.3	4.9	1714	23,996
Madison, Wisconsin	26	0.9	84	0.7	2,196.92	0.6	85	0.5	3.2	596	15,496
Subtotals	2000	74.8	7992	71.0	241,745.15	71.8	121	38.2	4.0		2,524,000 **
Other Cities	638	25.2	3091	29.0	89,051.02	28.2	140	12.8	4.8		
GRAND TOTALS	2638	100.00	11083	100.0	330,796.17	100.00	125	51.0	4.2		

(1) Average Number of Trips per Week = Total Number of Individual Trips ÷ 52

(2) Average Number of Mandays per Trip = Total Number of Mandays ÷ Total Number of Employees

(3) Total Statute Miles Traveled = Roundtrip Statute Miles to Destination X Number of Trips

\*\* Average Cost/Seat/Statute Mile = 9.5¢



Schedule C reflects the number of times (frequency) during the year that one or more employees flew to the same destination on the same day. Schedule C-1 is the same as Schedule C except that the destination includes Denver and related West Coast cities that fly to Denver as the first leg. The important conclusion that may be drawn from Schedules C and C-1 is that even without a formal method of scheduling available, the 2,000 trips transporting 2,000 employees as shown in Schedule B could have been reduced to 1,149 trips if a state-owned aircraft with comparable commercial speed had been available for use by State employees. The highly traveled destinations of Washington D.C., Chicago, Denver and Kansas City, reflect the following changes:

	<u>Schedule B</u>	<u>Schedule C-1</u>	<u>Decrease in</u>
	<u>No. of Trips</u>	<u>No. of Trips</u>	<u>No. of Trips</u>
Washington D.C.	382	171	211
Chicago	344	173	171
*Denver	330	206	124
Kansas City	<u>248</u>	<u>146</u>	<u>102</u>
TOTALS	<u>1304</u>	<u>696</u>	<u>608</u>

\*Includes West Coast Destinations

Due to the absence of an available schedule, over 50% of all the trips taken to the highly traveled destinations only one or two employees were there at the same time.

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Schedule C  
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Out-of-State Commercial Air Travel Frequency of Trips and Passenger Load

No. of Passengers	1		2		3		4		5		6		7 or More		TOTALS	
	*No.	Amount	*No.	Amount	*No.	Amount	*No.	Amount	*No.	Amount	*No.	Amount	*No.	Amount	*No.	Amount
Wash. D.C.	83	12943.88	42	13282.48	21	10315.54	10	6392.78	7	5230.41	2	1969.80	6	9584.59	171	59,719.48
	49%	22%	25%	22%	12%	17%	6%	11%	4%	9%	1%	3%	3%	16%	100%	100%
Chicago	96	7,330.22	42	6152.68	13	3355.07	9	3007.91	7	2425.41	4	1876.75	2	2007.09	173	26,155.13
	55%	28%	24%	24%	8%	13%	5%	12%	4%	9%	3%	7%	1%	7%	100%	100%
Denver	49	6,282.29	19	4249.78	9	3077.33	1	490.51	1	635.71					79	14,735.62
	62%	43%	24%	29%	12%	21%	1%	3%	1%	4%					100%	100%
New Orleans	24	4044.04	9	2685.34	4	1921.72	4	2600.59	1	842.48					42	12,094.17
	57%	33%	22%	22%	10%	16%	9%	22%	2%	7%					100%	100%
Kansas City	83	4034.72	36	3234.92	19	2396.19	5	946.46	2	478.35	1	193.04			146	11,283.68
	57%	36%	25%	29%	13%	21%	3%	8%	1%	4%	1%	2%			100%	100%
Miami	16	4028.66	5	2394.33	4	2828.68					1	1340.80			26	10,592.47
	62%	38%	19%	23%	15%	27%					4%	12%			100%	100%
San Francisco	24	5912.15	6	2949.90	2	1281.63									32	10,143.68
	75%	58%	19%	29%	6%	13%									100%	100%
Atlanta	27	4254.78	4	1090.19	1	445.25	2	1217.55	1	691.76			1	1442.54	36	9,142.07
	75%	46%	11%	12%	3%	5%	5%	13%	3%	8%			3%	16%	100%	100%
Seattle	13	3176.15			2	1413.93			2	2347.23			1	1666.54	18	8,603.85
	72%	37%			11%	17%			11%	27%			6%	19%	100%	100%
Dallas	24	3606.24	8	1894.13	4	1814.52			1	741.60					37	8,056.49
	65%	45%	21%	23%	11%	23%			3%	9%					100%	100%
Los Angeles	11	2383.77	4	1912.35	1	673.06							1	3006.94	17	7,976.12
	65%	30%	23%	24%	6%	8%							6%	38%	100%	100%
St. Louis	34	2309.14	11	1421.70	7	1332.14	2	526.72					1	545.62	55	6,135.32
	62%	38%	20%	23%	13%	22%	3%	8%					2%	9%	100%	100%
Boston	12	2458.42	4	1705.88	1	595.10	1	776.58							18	5,535.98
	66%	44%	22%	31%	6%	11%	6%	14%							100%	100%
New York City	18	3170.34	7	2350.16											25	5,520.50
	72%	57%	28%	43%											100%	100%
Mpls. - S.P.	50	2961.95	14	1629.56	1	144.95	2	515.29					1	264.19	68	5,515.94
	74%	54%	21%	30%	1%	2%	3%	9%					1%	5%	100%	100%
Las Vegas	9	1679.54	1	377.10	1	631.68	2	1544.74				1	1161.30	14	5,394.36	
	65%	31%	7%	7%	7%	12%	14%	29%				7%	21%	100%	100%	

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Schedule C  
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Out-of-State Commercial Air Travel Frequency of Trips and Passenger Load

No. of Passengers	1		2		3		4		5		6		7 or More		TOTALS	
	*No.	Amount	*No.	Amount	*No.	Amount	*No.	Amount	*No.	Amount	*No.	Amount	*No.	Amount	*No.	Amount
Portland	7 64%	1916.71 36%	2 18%	1031.16 19%					2 18%	2394.61 45%					11 100%	5,342.48 100%
Salt Lake City	16 84%	2601.37 67%	1 5%	345.11 9%	2 11%	946.30 24%									19 100%	3,892.78 100%
Phoenix	8 67%	1793.75 51%	4 33%	1739.99 49%											12 100%	3,533.14 100%
Houston	7 64%	1190.91 35%	1 9%	346.23 10%	2 18%	1087.68 33%	1 9%	745.87 22%							11 100%	3,370.69 100%
San Diego	7 78%	1711.60 65%	2 22%	906.20 35%											9 100%	2,617.80 100%
Albuquerque	12 86%	2004.26 82%	1 7%	311.12 13%	1 7%	138.96 5%									14 100%	2,454.34 100%
Spokane	1 33%	306.82 13%			1 33%	665.85 27%							1 34%	1481.05 60%	3 100%	2,453.72 100%
Philadelphia	11 85%	1777.22 73%	2 15%	641.67 27%											13 100%	2,418.89 100%
Omaha	41 76%	1380.08 57%	8 15%	550.74 23%	3 5%	290.94 12%	1 2%	83.80 4%	1 2%	100.90 4%					54 100%	2,406.46 100%
Detroit	9 69%	893.93 40%	2 15%	407.30 18%	1 8%	386.31 17%	1 8%	555.72 25%							13 100%	2,243.26 100%
San Antonio	7 78%	1068.37 48%			1 11%	480.31 22%	1 11%	661.13 30%							9 100%	2,209.81 100%
Madison	22 92%	1900.01 86%	2 8%	296.91 14%											24 100%	2,196.92 100%
TOTALS	721 63%	89120.72 37%	237 20%	53906.93 22%	101 9%	36223.14 15%	42 4%	20065.65 8%	25 2%	15888.46 7%	9 1%	6541.69 3%	14 1%	19998.56 8%	1149 100%	241,745.15 100%

\* No. = Total Number of Days Flying to same Destination

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Schedule C-1  
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Number of Combined Days West Coast Destination would have Traveled to Denver during 1973-74

No. Of Passengers	1		2		3		4		5		6		7 or More		Totals	
Destination	*No.	Amount	*No.	Amount	*No.	Amount	*No.	Amount	*No.	Amount	*No.	Amount	*No.	Amount	*No.	Amount
(Schedule D)																
Denver	49	6,282.29	19	4,249.78	9	3,077.33	1	490.51	1	635.71	0	- 0 -	0	- 0 -	79	14,735.62
San Francisco	24	5,912.15	6	2,949.90	2	1,281.63	0	- 0 -	0	- 0 -	0	- 0 -	0	- 0 -	32	10,143.68
Seattle	13	3,176.15	0	- 0 -	2	1,413.93	0	- 0 -	2	2,347.23	0	- 0 -	1	1,666.54	18	8,603.85
Los Angeles	11	2,383.77	4	1,912.35	1	673.06	0	- 0 -	0	- 0 -	0	- 0 -	1	3,006.94	17	7,976.12
Las Vegas	9	1,679.54	1	377.10	1	631.68	2	1,544.74	0	- 0 -	1	1,161.30	0	- 0 -	14	5,394.36
Portland	7	1,916.71	2	1,031.16	0	- 0 -	0	- 0 -	2	2,394.61	0	- 0 -	0	- 0 -	11	5,342.48
Phoenix	8	1,793.15	4	1,739.99	0	- 0 -	0	- 0 -	0	- 0 -	0	- 0 -	0	- 0 -	12	3,533.14
San Diego	7	1,711.60	2	906.20	0	- 0 -	0	- 0 -	0	- 0 -	0	- 0 -	0	- 0 -	9	2,617.80
Albuquerque	12	2,004.26	1	311.12	1	138.96	0	- 0 -	0	- 0 -	0	- 0 -	0	- 0 -	14	2,454.34
<b>TOTALS</b>	<b>140</b>	<b>26,859.62</b>	<b>39</b>	<b>13,477.60</b>	<b>16</b>	<b>7,216.59</b>	<b>3</b>	<b>2,035.25</b>	<b>5</b>	<b>5,377.55</b>	<b>1</b>	<b>1,161.30</b>	<b>2</b>	<b>4,673.48</b>	<b>206</b>	<b>60,801.39</b>

\* No. = Total Number of Days to Destination

Current State-owned Aircraft Analysis for 1973-74

As shown in Schedule D the State currently owns 18 aircraft. Iowa State uses the Mooney M20C for training aerospace engineers and the three Piper PA-28-140's are used for the Reserve Officer Training Corp. program. The two Aero Commanders and the Piper PA-28R are used to transport university staff in connection with extension, academic teaching and administrative functions. The Public Defense aircraft is used for transporting the Governor and other State employees.

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Current State Aircraft Inventory

<u>Department Make &amp; Model</u>	<u>Location</u>	<u>Year of Manufacture</u>	<u>Number of Engines</u>	<u>Number of Passenger Seats (Exclude 1 Pilot)</u>	<u>Avg. Cruising Speed</u>	<u>REMARKS</u>
Iowa State University						
Mooney M20C	Ames Airport	1963	1	3		Not used for Passenger Travel - Aerospace Study only.
Aero Commander	Ames Airport	1966	2	5	165	
Aero Commander	Ames Airport	1969	2	5	165	
Piper PA-28R	Ames Airport	1969	1	3	130	
Piper PA-28-140	Ames Airport	1967	1	1		
Piper PA-28-140	Ames Airport	1967	1	1	110	
Piper PA-28-140	Ames Airport	1967	1	1		
Highway Commission						
Piper PA-23-250 (Aztec)	Ames Airport	1970	2	5	200	
Highway Patrol						
Cessna 172	Waterloo	1973		3	135	Used for Speed Limit Control.
Cessna 172	Storm Lake	1973		3	135	
Cessna 172	Atlantic	1974		3	135	
Cessna 172	Iowa City	1973		3	135	
Cessna 150	Des Moines	1972	1	1	130	
Cessna 182	Des Moines	1966	1	3	155	
Conservation Commission						
Piper PA-23-250 (Aztec)	Des Moines	1974	2	5	200	
Department of Justice						
Bellanca 260-B	Des Moines	1966	1	3	185	
Aeronautics Commission						
Piper PA-24	Des Moines	1968	1	3	175	
Public Defense						
Cessna 421	Des Moines	1968	2	5	240	

Schedule D-1 reflects the cost of operating State aircraft for Fiscal 1974 and the resulting cost of operation per hour and cost per statute mile. This schedule was based on data submitted to General Services in response to a questionnaire; however, due to the different types of funding and methods used to account for costs, adjustments for non-receiving costs were made in order to analyze each aircraft. For example, state aircraft operations were either paid from revolving funds or appropriated funds and all expenditures were reported on a cash basis; consequently major overhauls in one year and none the next would inflate the cost per hour in the year of overhaul. The appropriate adjustments were made when this cost could be determined. Depreciation was not considered on current aircraft since the replacement of airplanes was normally done through State appropriation. Salary expense was included in all aircraft cost even when full-time pilots were not assigned to a particular aircraft. The Bellanca was flown by an investigator in the Attorney General's Office, the Piper PA-24 was flown by staff members of the Aeronautics Commission and the Highway Patrol planes were flown by troopers.

The number of hours flown in the Cessna 182, Bellanca 160 B, Piper PA-24, and the Cessna 421 indicates that the aircraft were under utilized, thereby increasing the total cost per hour. It is difficult to compare the operating cost of the Bellanca to any other aircraft except on the basis that other single engine aircraft operated at a much cheaper rate; for example, the Piper PA-24 operated at \$17.00 per hour compared to \$24.15 for the Bellanca. Considering the operating cost comparison and the fact that the Bellanca is due for major engine overhaul in 35 hours at an estimated cost of \$12,000.00, it is questionable that the retention of this aircraft is cost effective compared to other types of plane travel that could be available to the Attorney General's Office through pooling of aircraft.

Based on the number of hours flown in the Cessna 182, the Piper PA-24 and the Cessna 421, it appears that higher utilization of these airplanes could be experienced by pooling their operation. Even though the Piper Aztec experienced a high number of flight hours conducting Conservation Commission business, the pooling of this aircraft would be feasible on the basis that certain tasks currently performed by this aircraft may be more economically performed by other aircraft.

In order to create an economical aircraft pool operation the traveling needs of state employees must be compared to the aircraft capabilities within the pool. It must be emphasized that "needs" refer to the historical travel requirements of state employees and not the rationale, economics or importance of making any particular trip. Prime goals to be obtained are: high utilization of aircraft, which absorbs fixed cost and reduces the total operating cost; speed of aircraft to match the needs of mission and maximum passenger loads, which reduces the passenger seat cost.

As shown in Schedules C, C-1, E and D-1, the traveling needs can be determined as follows: Washington D.C., Chicago, Denver and related West Coast destinations, and Kansas City account for \$157,959.68 out of \$330,796.17 spent for out-of-state commercial airline travel, or 48% of the total cost. The Department of Justice flew 250 hours primarily in-state and Social Services flew approximately 150 hours for in-state travel. The Public Defense aircraft was used for both in-state and out-of-state travel. The capabilities of the current state-owned aircraft could economically meet most of the needs of in-state travel, assuming the Bellanca was sold; however, out-of-state travel needs could not be met economically with current aircraft due to the slow cruising speed. For this reason further study was given to types of aircraft that would meet the speed requirement.



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Current State-owned Aircraft and Cost per Hour for 1973-74

Department Make & Model	Total Flight Hours	Gasoline & Oil	Maintenance & Parts	Misc.	Total Direct Operating Costs	Direct Operating Cost/hour	Crew Salary	Insurance	Hangar Rental	Total All Costs	Total Cost/hour	Cost/ Statute Mile
Iowa State University												
Mooney M20C 1963	75.0	522.34	550.02	26.50	1098.86	14.65	- 0 -	144.80	264.00	1507.66	20.10	N/A
Aero Commander 1966	462.8	4195.36	6657.34	429.19	11281.89	24.38	13828.21	2478.91	966.52	28555.53	61.70	.37
Aero Commander 1969	477.9	4564.28	5434.49	463.16	10461.93	21.89	13828.21	3186.75	966.51	28443.40	59.52	.36
Piper PA-28R 1969	299.6	968.99	2772.89	219.04	3960.92	13.22	13828.21	768.85	483.26	19041.24	63.55	.49
Piper PA-28-140 1967												
Piper PA-28-140 1967	715.3	1375.78	4126.73	271.11	5773.62	8.07	11795.53	1836.97	805.44	20211.56	28.26	.26
Piper PA-28-140 1967												
Highway Commission												
Piper PA-23-250 (Aztec)	473.9	4366.17	5678.71	840.00	10884.88	22.97	12684.36	1255.00	1411.38	26235.62	55.36	.28
Highway Patrol												
Cessna 172 1973	966.0	3668.65	1570.70	25.00	5264.35	5.45	13536.00	135.00	540.00	19475.35	20.16	.15
Cessna 172 1973	622.0	2517.64	487.65	25.00	3030.29	4.87	13536.00	135.00	360.00	17061.29	27.43	.20
Cessna 172 1974	750.0	3303.55	1050.81	25.00	4379.36	5.84	13536.00	135.00	300.00	18350.36	24.47	.18
Cessna 172 1973	1073.0	4644.34	1040.42	25.00	5709.76	5.32	13536.00	135.00	480.00	19860.76	18.51	.14
Cessna 150 1972	811.0	1899.28	966.32	25.00	2890.60	3.56	13536.00	135.00	720.00	17281.60	21.31	.16
Cessna 182 1966	199.8	1225.46	959.51	86.00	2270.97	11.37	13536.00	135.00	720.00	16661.97	83.39	.54
Conservation Commission												
Piper PA-23-250	495.3 (1)	5374.25	4421.00	199.60	9994.85	20.18	15038.27	458.00	1360.00	26851.12	54.21	.27
Department of Justice												
Bellanca 160B	250.6	2285.26	3726.55	40.00	6051.81	24.15	12000.00(2)	174.00	1127.50	19353.31	77.23	.42

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Schedule D-1  
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Current State-owned Aircraft and Cost per Hour

Department Make & Model	Total Flight Hours	Gasoline & Oil	Maintenance & Parts	Misc.	Total Direct Operating Costs	Direct Operating Cost/Hour	Crew Salary	Insurance	Hangar Rental	Total All Costs	Total Cost/hour	Cost/ Statute Mile.
Aeronautics Commission Piper PA-24	180.0	1258.92	1594.08	207.00	3060.00	17.00	3000.00 (2)	157.00	-0-	6217.00	34.53	.19
Public Defense Cessna 421 1968	233.2	5393.69	5872.93	1098.63	12365.25	53.02	15000.00	217.00	-0-	27582.25	118.28	.49
TOTALS		47563.96	46910.15	4005.23	98479.34		192218.79	11487.28	10504.61	312690.02		

\*(1) During this period the Conservation Commission purchased a new aircraft.  
Due to delay in delivery time, 164.5 hours of flying service had to be purchased.

(2) Prorated Salaries.

Schedule E indicates that the State spent approximately \$655,826 for commercial air travel, charter travel, and state plane travel for the Fiscal Year 1973-74. The charter service of \$12,340 was for Social Services only.

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Total 1973-74 Cost of Commercial Airline Travel, Charter Travel, and State Planes

Commercial (Schedule A, Page 2 Of 2)	330,796.17
*Charter	12,340.00
State Planes (Schedule D-1, Page 1 of 1)	<u>312,690.02</u>
TOTAL ALL COST	<u>655,826.19</u>

\* Charter:

Department of Social Services 73 Trips (Primarily in-State Travel)	<u>12,340.00</u>
---	------------------

### Current Charter Rates

Schedule F reflects charter rates for three (3) Des Moines firms for twin engine aircraft carrying various number of passengers. By comparing Schedule D-1 and Schedule F, using comparable aircraft, and considering D-1 does not contain depreciation recovery nor a profit motive, it can be concluded that chartering aircraft is somewhat more expensive than using State aircraft. For example, Piper Aztecs may be chartered at \$105.00 per hour plus \$8.00 per hour idle time plus approximately \$50 additional if the trip is overnight. The rate for the State Aztec would approximately 55.00 per hour excluding depreciation. The pressurized Cessna 421 could be chartered for \$200.00 per hour whereas the comparable State plane operates at approximately \$118.00 excluding depreciation.

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Schedule F  
Page 1 of 1

Typical Charter Rates/Statute Mile and Other Expenses for Reciprocal Engine Aircraft

	Statute Miles per hour	<u>4-5</u> Rate/hr.	Rate per Stat.Mi.	<u>6-8</u> Rate/hr.	Rate per Stat.Mi.	<u>9-15</u> Rate/hr.	Rate per Stat.Mi.	Idle time Chg./hr. (8 AM-6PM)	Crew Layover Charge per Nite	Explanation
<u>Des Moines Flying Services</u>										
Piper Seneca	126	72.00	.57					8.00	50.00	Crew Layover \$25 plus \$25 expenses
Piper - Pressurized Navajo	190			233.10	1.22			8.00	50.00	
Piper - 350 Chieftain	174			162.00	.93			8.00	50.00	
Piper - Aztec	150			105.00	.70			8.00	50.00	
<u>Elliott Flying Service</u>										
Beechcraft Baron	225	135.00	.60					6.00	50.00	Crew Layover \$25 plus \$25 expenses
<u>Iowa Aviation</u>										
Cessna 337 Pressurized	150	90.00	.60					8.00	50.00	Crew Layover \$25 plus \$25 expenses
Cessna 340 Cabin Class	174	122.00	.70					8.00	50.00	
Cessna 421 Pressurized	190			200.00	1.05			8.00	50.00	
Cessna 402 Non-Pressurized	209					178.00	.85	8.00	50.00	
TOTALS		419.00	2.47	700.00	3.90	178.00	.85	70.00	450.00	
Average Rates		105.00	.62	175.00	.98	178.00	.85	7.77/hr.	50.00/night	
Avg. Speed per Stat. Mi.		<u>169 Stat.Mi./hr.</u>		<u>179 Stat.Mi./hr.</u>		<u>209 Stat.Mi./hr.</u>				

Cost of Operating Various Types of Aircraft

Due to the frequency of trips made by state employees to Washington D.C., etc. and considering the speed deficiency of current state-owned aircraft, a further investigation was made of aircraft that could be added to the fleet to meet the speed requirements. The Citation is a small business jet and the other aircraft are turbo-props. The fixed operating costs for hangar rental, crew salary, and office supplies are shown at the same amount for each type of aircraft purchased. The total cost per hour, cost per statute mile, and passenger cost per seat per statute mile were computed on the basis of 500 hours of flight time with the maximum passenger load.

Due to the absorption of fixed cost by the number of hours flown these rates would be considerably reduced if the number of flight hours were increased. These costs would also be reduced using a fleet concept since each aircraft in the fleet would be responsible for absorbing a portion of the fixed costs. Due to the uncertainty of the fixed cost to be considered for state operation, Schedule G-1 reflects only the direct operating cost per hour, direct operating cost per statute mile and the passenger cost per seat per mile.

Certain objectives must be met to maintain an economical and successful fleet operation. The fleet must have the flexibility and proper mix of aircraft to meet the special needs of the departments, such as speed control, photography capabilities and short field landings; the ability to transport passengers in a safe and comfortable manner; assurance of maximum passenger load through proper scheduling; and the speed capability to cut executive time to a minimum.

As shown in Schedule G-1, the passenger cost per seat per statute mile would be:

Jet	.09
Merlin 4A	.03
Merlin 3A	.07
Piper Cheyenne	.07
King Air E-90	.09



The Merlin 4A is capable of transporting 13 passengers; however, recent studies indicate that the average business trip to any one destination averages approximately 3-5 passengers.

In view of the current aircraft available for pooling, "speed" is the greatest deficiency and must be considered in the overall cost effectiveness of a pool operation. It is our opinion that the 2¢ difference in cost per seat per statute mile between the jet and the Merlin 3A and Piper Cheyenne would be offset by the value of executive time, in addition to the outlay for original purchase price and the resulting depreciation rates for each aircraft. For these reasons the jet operating expense was used to determine the financial impact on 1973-74 travel activity, assuming that type of aircraft had been available for use.

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Schedule G  
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Total Cost of Operating Various Types of Aircraft

	Cessna Citation Jet	Merlin 4A	Merlin 3A	Piper Cheyenne	King Air E-90
Purchase Price	830,000.00	953,000.00	825,000.00	550,000.00	650,000.00
Average Speed (Statute Mile/Hour)	334	285	285	271	250
Average Fuel Flow (Gal./Hour)	151	86.5	86.5	80	82
Number of Passenger Seats (Not Crew)	6	13	6	6	5
Direct Operating Cost per Hour:					
Fuel @ 60¢ per gallon	90.60	51.90	51.90	48.00	49.20
Maintenance, Labor, Inspection & Prop Overhaul	32.50	20.00	20.00	19.50	28.60
Parts	22.50	14.00	14.00	16.00	16.00
(1) Engine Overhaul Reserve	30.00	23.22	23.22	12.66	11.43
Landing Fees, Pilot Subsistence, etc.	10.00	10.00	10.00	10.00	10.00
<b>Total Direct Operating Cost</b>	<b>185.60</b>	<b>119.12</b>	<b>119.12</b>	<b>106.16</b>	<b>115.23</b>
Fixed Operating Cost per Year:					
Hangar Rental	3600	3600	3600	3600	3600
Pilot, Co-Pilot Salaries & Fringe	34000	34000	34000	34000	34000
Insurance (Hull & Liability)	8780	10000	8000	6500	7300
(2) Depreciation Reserve	29714	47650	41250	27500	32500
Office Supplies, Telephone, Misc.	5000	5000	5000	5000	5000
<b>Total Fixed Operating Cost per Year</b>	<b>81,094</b>	<b>100,250</b>	<b>91,850</b>	<b>76,600</b>	<b>82,400</b>
Direct Operating Cost at 500 Hours	92,800	59,560	59,560	53,080	57,615
<b>Total Cost at 500 Hours</b>	<b>173,894</b>	<b>159,810</b>	<b>151,410</b>	<b>129,680</b>	<b>140,015</b>
Cost per Hour	348	320	303	259	280
Cost per Statute Mile	1.04	1.02	1.06	.95	1.12
Passenger Cost per Seat per St.Mi.	.17	.08	.17	.16	.22
(1) Overhaul Cost 2 Engines	54000	72000	72000	38000	40000
Time Before Overhaul (hours)	1800	3100	3100	3000	3500
(2) Depreciation Rate per Year	3.58%	5%	5%	5%	5%

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Schedule G-1

Direct Operating Costs of Various Types of Aircraft

	<u>Cessna Citation Jet</u>	<u>Merlin 4A</u>	<u>Merlin 3A</u>	<u>Piper Cheyenne</u>	<u>King Air- E90</u>
Purchase Price	830,000.00	953,000.00	825,000.00	550,000.00	650,000.00
Average Speed (Statute Mile/hour)	334	285	285	271	250
Average Fuel Flow (Gal/hour)	151	86.5	86.5	80	82
Number of Passenger Seats (Not Crew)	6	13	6	6	5
Direct Operating Cost per Hour:					
Fuel @ 60¢ per gallon	90.60	51.90	51.90	48.00	49.20
Maintenance, Labor, Inspection, & Prop Overhaul	32.50	20.00	20.00	19.50	28.60
Parts	22.50	14.00	14.00	16.00	16.00
Engine Overhaul Reserve	30.00	23.22	23.22	12.66	11.43
Landing Fees, Pilots Subsistence	10.00	10.00	10.00	10.00	10.00
Total Direct Operating Cost per Hour	<u>185.60</u>	<u>119.12</u>	<u>119.12</u>	<u>106.16</u>	<u>115.23</u>
Direct Operating Cost per Stat. Mi.	.56	.42	.42	.39	.46
Passenger Cost per Seat per Stat. Mi.	.09	.03	.07	.07	.09

## Leasing vs. Purchasing of Aircraft

The feasibility of leasing aircraft compared to outright purchase is shown in Schedule G-2. There are many types of leasing arrangements with many variables; however, for study purposes the Cessna Citation was used as an example. The length of the lease was seven (7) years with a refundable deposit of \$50,000, and yearly payments of \$126,492. It was assumed the State could invest the excess funds at 6% per year. For seven (7) years the lease payments would have been \$885,444, plus the interest lost of \$25,000 on the refundable \$50,000 deposit, less the interest earned at 6% on the unpaid balance. The net cost of leasing would have been \$732,448.

The cost of outright purchase included \$830,000 principal plus the interest lost due to the one time expenditure for seven (7) years at 6%. The total cost at seven years was \$1,245,000; however, the depreciated value or equity of the aircraft would have been \$622,002, or a net cost of \$622,998 compared to the total leasing cost of \$732,448.

Assuming the original total purchase price was available for either leasing or outright purchase it could be concluded that outright purchases would be more economical than leasing.

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Lease vs. Purchase  
of Cessna Citation w/o Trade-in of 421

Assume 6% Interest Return

Leasing

Deposit Required		50,000.00
Interest Lost on 50,000 for 7 Years $p(1 + .06)^7$	$50,000(1.5) =$	
Compounded at 6% annually		<u>75,000.00</u>
Interest Lost on 50,000 Deposit		<u>25,000.00</u>

<u>Loan Principal</u>	<u>Payment</u>	<u>Amount Pd.</u>	<u>Bal. for Interest</u>	<u>6% Int. Earn.</u>	<u>Ending Balance</u>
830,000	1	126,492	703,508	42,210	745,718
	2	126,492	619,226	37,153	656,379
	3	126,492	529,887	31,793	561,680
	4	126,492	435,188	26,111	461,299
	5	126,492	334,807	20,088	354,895
	6	126,492	228,403	13,704	242,107
	7	<u>126,492</u>	115,615	6,937	249,044
TOTALS		<u>885,444</u>		<u>177,996</u>	

Total Amount Paid for 7 Years	885,444
Interest Lost on \$50,000 deposit	25,000
Interest Earned by Yearly lease	(177,996)
Net Cost of Aircraft by Leasing	<u>732,448</u>

Purchase Price	830,000
Interest Lost due to Purchase: $830,000(.50)$	
$A = P(1 + i)^n$	415,000
Total Cost	1,245,000
Equity at end of 7 years:	
(depreciation at $3.58 \times 7 = (25.06)(830,000) = \$207,998$ )	
830,000 - 207,998	(622,002)
Net Cost of Purchasing	<u>622,998</u>

Estimated Passenger Load and Frequency of Trips to Certain Destinations

As shown in Schedule C the most frequently traveled destinations for 1973-74 were Washington D.C., Chicago, Denver and related West Coast Cities, and Kansas City. These destinations also incurred the greatest amount of cost and involved the greatest number of mandays in traveling. In order to measure the impact of centralized scheduling and the redistribution of employees traveling to a certain destination at the same time, Schedule H reflects the assumption that 50% of the number of trips transporting 1, 2, or 3 employees could have been rescheduled to a different day, assuming a regular schedule of flights were available to the respective destination. This would enhance the possibility of a higher passenger load traveling to any destination at any given time.

The number of trips would be reduced as shown below.

<u>Destination</u>	<u>Original Trips</u>	<u>Revised Trips</u>	<u>Reduction</u>
Washington D.C.	171	99	72
Chicago	173	104	69
Denver & Related Cities	206	108	98
Kansas City	<u>146</u>	<u>87</u>	<u>59</u>
TOTALS	<u>696</u>	<u>398</u>	<u>298</u>

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Schedule H  
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Estimated Passenger Load and Trip Frequency to Certain Locations

Destination	No. of Employees	From Schedule C	Total Employees Transported	Revised No. of Trips	Revised Distribution of Employees Transported
		No. of Trips			
Washington D. C.	1	83	83	43	43
	2	42	84	21	42
	3	21	63	10	30
	4	10	40	10	68
	5	7	35	7	64
	6	2	12	2	41
	7 or More	6	65	6	94
TOTALS		171	382	99	382
Chicago	1	96	96	48	48
	2	42	84	21	42
	3	13	39	13	57
	4	9	36	9	54
	5	7	35	7	53
	6	4	24	4	42
	7 or More	2	30	2	48
TOTALS		173	344	104	344
Denver & West Coast Destination (See Schedule C-1)	1	140	140	70	70
	2	39	78	19	38
	3	16	48	8	24
	4	3	12	3	45
	5	5	25	5	59
	6	1	6	1	39
	7 or More	2	21	2	55
TOTALS		206	330	108	330
Kansas City	1	83	83	42	42
	2	36	72	18	36
	3	19	57	19	76
	4	5	20	5	39
	5	2	10	2	30
	6	1	6	1	25
	7 or More	-0-	-0-	-0-	-0-
TOTALS		146	248	87	248

Comparative Economics of Traveling to Certain Destinations  
by Different Modes of Transportation

To provide the most economical means of transportation to Washington D.C., Chicago, Denver and Kansas City, a comparison must be made between commercial airlines, state-owned aircraft, and state vehicles. Exhibits A, B, and C consider the transportation cost and the time cost involved traveling to each destination for one employee. Subsistence cost was not considered for flight travel because that would vary depending on the meeting times at the destination. Subsistence cost was used in computing state vehicle expense traveling to Chicago and Kansas City on the basis that due to the driving time involved, employees would stay overnight; whereas, if they traveled by plane they would normally return earlier.

The assumptions were made that all meetings were held in the downtown area and that all travel was incurred during normal working hours. An average hourly rate of \$12.00 per employee was used for travel to Washington D.C. and \$8.00 per employee for all other destinations.



Rountrip Commercial Airline Cost and Time Cost to Various Destinations  
for One Employee

<u>Destination</u>	<u>Time Factor</u>	<u>Rate / Hour Per Employee</u>
<b>Washington D. C.</b>		
Flight preparation	1.0	
Actual Flight Time	7.3	
Baggage Time	1.0	
Airport to City	2.0	
TOTAL	<u>11.3</u>	12.00
Total Time Cost		135.60
Commercial Airline Ticket		169.00
Total Cost per One Employee		<u>304.60</u>
<b>Chicago</b>		
Flight Preparation	1.0	
Actual Flight Time	1.7	
Baggage Time	1.0	
Airport to City	2.0	
Total	<u>5.7</u>	8.00
Total Time Cost		64.41
Commercial Airline Ticket		77.00
Total Cost per One Employee		<u>141.41</u>
<b>Denver</b>		
Flight Preparation	1.0	
Actual Flight Time	3.1	
Baggage Time	1.0	
Airport to City	2.0	
Total	<u>7.1</u>	8.00
Total Time Cost		56.80
Commercial Airline Ticket		123.00
Total Cost per One Employee		<u>179.80</u>
<b>Kansas City</b>		
Flight Preparation	1.0	
Actual Flight Time	1.3	
Baggage Time	1.0	
Airport to City	2.0	
Total	<u>5.3</u>	8.00
Total Time Cost		42.40
Commercial Airline Ticket		53.00
Total Cost per One Employee		<u>95.40</u>

Roundtrip Operating Cost and Time Cost Using State-Owned Aircraft (Small Jet)  
to Various Destinations for One Employee

<u>Destination</u>	<u>Time Factor (hrs)</u>	<u>Rate / hour Per Employee</u>	<u>Roundtrip Stat. Miles</u>	<u>Operating Cost per Stat.Mi.</u>
Washington D. C.			1792	.56
Flight Preparation	.5			
Actual Flight Time	5.2			
Airport to City	2.0			
Total	<u>7.7</u>	12.00		
Total Time Cost		92.40		
Total Plane Cost				1003.52
Total Cost per 1 Employee				<u>1095.92</u>
Chicago			598	.56
Flight Preparation	.5			
Actual Flight Time	1.7			
Airport to City	.5			
Total	<u>2.7</u>	8.00		
Total Time Cost		21.60		
Total Plane Cost				334.88
Total Cost per 1 Employee				<u>356.48</u>
Denver			1188	.56
Flight Preparation	.5			
Actual Flight Time	3.4			
Airport to City	2.0			
Total	<u>5.9</u>	8.00		
Total Time Cost		47.20		
Total Plane Cost				665.28
Total Cost per 1 Employee				<u>712.48</u>
Kansas City			314	.56
Flight Preparation	.5			
Actual Flight Time	.9			
Airport to City	.5			
Total	<u>1.9</u>	8.00		
Total Time Cost		15.20		
Total Plane Cost				175.84
Total Cost per 1 Employee				<u>191.04</u>

Roundtrip State Vehicle Cost, Time Cost and Subsistence Cost  
to Various Destinations for One Employee

<u>Destination</u>	<u>Time Factor (hrs)</u>	<u>Rate/ hour per Employee</u>
Chicago		
700 miles @ 50 mph	14	8.00
Total Time Cost		112.00
Subsistence Cost		45.00
Vehicle Cost:		
700 miles X .10		70.00
Total Cost per One Employee		227.00
Kansas City		
400 miles @ 50 mph	8	8.00
Total Time Cost		64.00
Subsistence Cost		35.00
Vehicle Cost		
400 miles X .10		40.00
Total Cost per One Employee		139.00

Using the employee cost computed in Exhibits A, B, and C, Schedules I-1, I-2, I-3, and I-4 reflect the total cost of transporting one through six passengers to the four destinations using different modes of transportation.

Department of General Services  
AIRPLANE STUDY

Schedule I-1  
Page 1 of 1

State Cost Traveling to Washington D.C. for 1-6 Employees using Different Modes of Transportation

<u>Mode of Transportation</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>
Commercial Airline (Exhibit A)						
Time Cost	135.60	271.20	406.80	542.40	678.00	813.60
Ticket Cost	169.00	338.00	507.00	676.00	845.00	1014.00
Total Cost	<u>304.60</u>	<u>609.20</u>	<u>913.80</u>	<u>1218.40</u>	<u>1523.00</u>	<u>1827.60</u>
State Aircraft (Small Jet)(Exhibit B)						
Time Cost	92.40	184.80	277.20	369.60	462.00	554.40
Plane Cost	1003.52	1003.52	1003.52	1003.42	1003.52	1003.52
	<u>1095.92</u>	<u>1188.32</u>	<u>1280.72</u>	<u>1373.02</u>	<u>1465.52</u>	<u>1557.92</u>

Department of General Services  
AIRPLANE STUDY

Schedule I-2  
Page 1 of 1

State Cost Traveling to Chicago for 1-6 Employees using Different Modes of Transportation

<u>Mode of Transportation</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>
Commercial Airline (Exhibit A)						
Time Cost	64.41	128.82	193.23	257.64	322.05	386.46
Ticket Cost	77.00	154.00	231.00	308.00	385.00	462.00
Total Cost	<u>141.41</u>	<u>282.82</u>	<u>424.23</u>	<u>565.64</u>	<u>707.05</u>	<u>848.46</u>
State Aircraft (Small Jet)(Exhibit B)						
Time Cost	21.60	43.20	64.80	86.40	108.00	129.60
Plane Cost	334.88	334.88	334.88	334.88	334.88	334.88
Total Cost	<u>356.48</u>	<u>378.08</u>	<u>399.68</u>	<u>421.28</u>	<u>442.88</u>	<u>464.48</u>
State Vehicle (Exhibit C)						
Time Cost	112.00	224.00	336.00	448.00	560.00	672.00
Subsistence Cost	45.00	90.00	135.00	180.00	225.00	270.00
Vehicle Cost	70.00	70.00	70.00	70.00	70.00	70.00
Total Cost	<u>227.00</u>	<u>384.00</u>	<u>541.00</u>	<u>698.00</u>	<u>855.00</u>	<u>1012.00</u>

Department of General Services  
AIRPLANE STUDY

Schedule I-3  
Page 1 of 1

State Cost Traveling to Denver for 1-6 Employees using Different Modes of Transportation

<u>Mode of Transportation</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>
Commercial Airline (Exhibit A)						
Time Cost	56.80	113.60	170.40	227.20	284.00	340.80
Ticket Cost	123.00	246.00	369.00	492.00	615.00	738.00
Total Cost	<u>179.80</u>	<u>359.60</u>	<u>539.40</u>	<u>719.20</u>	<u>899.00</u>	<u>1078.80</u>
State Aircraft (Small Jet)(Exhibit B)						
Time Cost	47.20	94.40	141.60	188.80	236.00	283.20
Plane Cost	665.28	665.28	665.28	665.28	665.28	665.28
Total Cost	<u>712.48</u>	<u>759.68</u>	<u>806.88</u>	<u>854.08</u>	<u>901.28</u>	<u>948.48</u>

Department of General Services  
AIRPLANE STUDY

Schedule I-4  
Page 1 of 1

State Cost Traveling to Kansas City for 1-6 Employees using Different Modes of Transportation

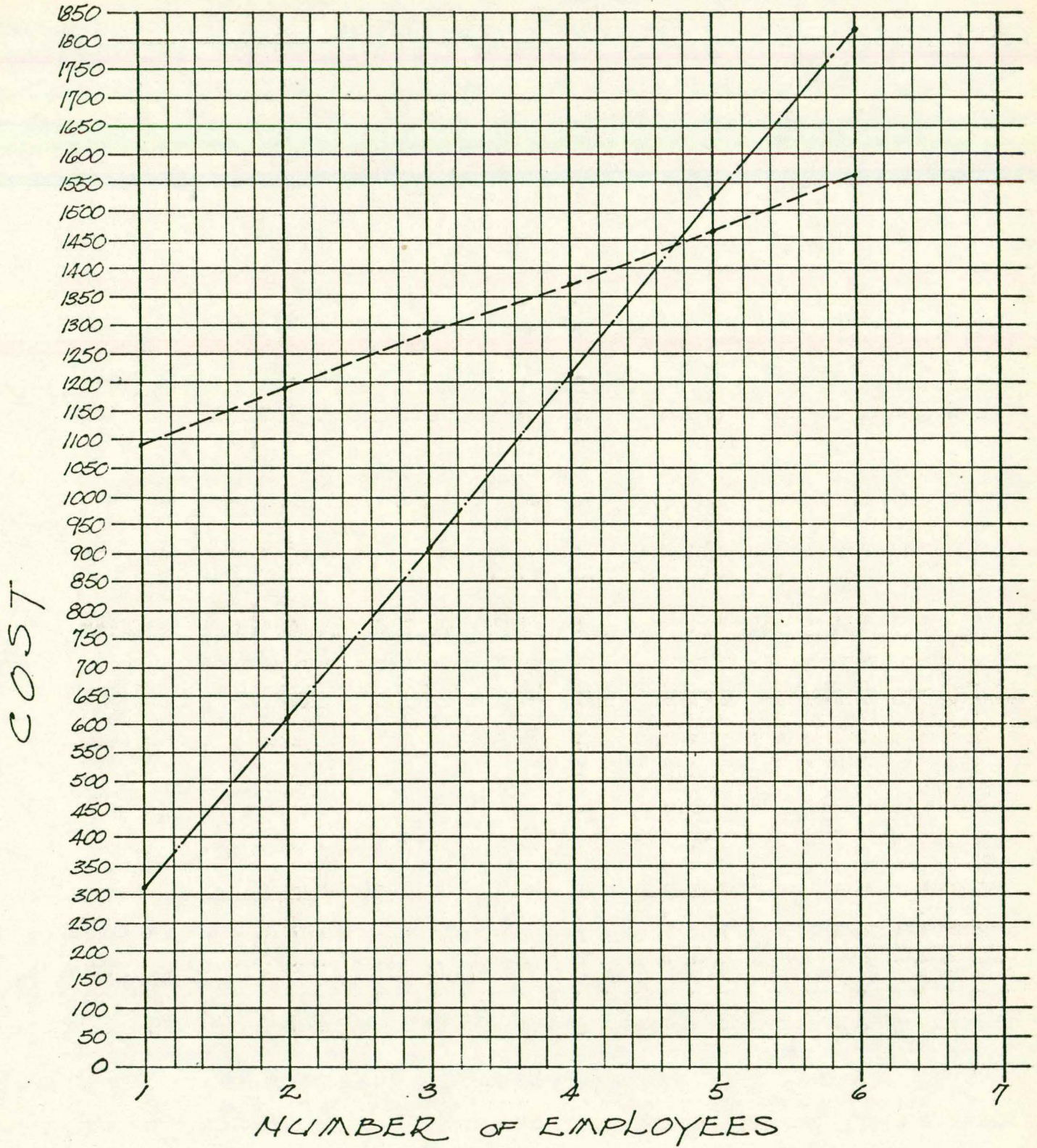
<u>Mode of Transportation</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>
Commercial Airline (Exhibit A)						
Time Cost	42.40	84.80	127.20	169.60	212.00	254.40
Ticket Cost	53.00	106.00	159.00	212.00	265.00	318.00
Total Cost	<u>95.40</u>	<u>190.80</u>	<u>286.20</u>	<u>381.60</u>	<u>477.00</u>	<u>572.40</u>
State Aircraft (Small Jet)(Exhibit B)						
Time Cost	15.20	30.40	45.60	60.80	76.00	91.20
Plane Cost	175.84	175.84	175.84	175.84	175.84	175.84
Total Cost	<u>191.04</u>	<u>206.24</u>	<u>221.44</u>	<u>236.64</u>	<u>251.84</u>	<u>267.04</u>
State Vehicle (Exhibit B)						
Time Cost	64.00	128.00	192.00	256.00	320.00	384.00
Subsistence Cost	35.00	70.00	105.00	140.00	175.00	210.00
Vehicle Cost	40.00	40.00	40.00	40.00	40.00	40.00
Total Cost	<u>139.00</u>	<u>238.00</u>	<u>337.00</u>	<u>436.00</u>	<u>535.00</u>	<u>634.00</u>



Figures 1-4 graphically depict the most economical mode of travel to each destination considering the number of employees traveling. As shown in the above graphs, the cost advantages of providing state aircraft can be recapped as follows:

<u>Destination</u>	<u>Economical No. of Employees Traveling</u>
Washington D.C.	5
Chicago, Illinois	3
Denver	5
Kansas City	3

WASHINGTON D.C.



COST

FIG. 1

LEGEND  
STATE AIRCRAFT ---  
COMMERCIAL - - -  
STATE VEHICLE . . .

CHICAGO

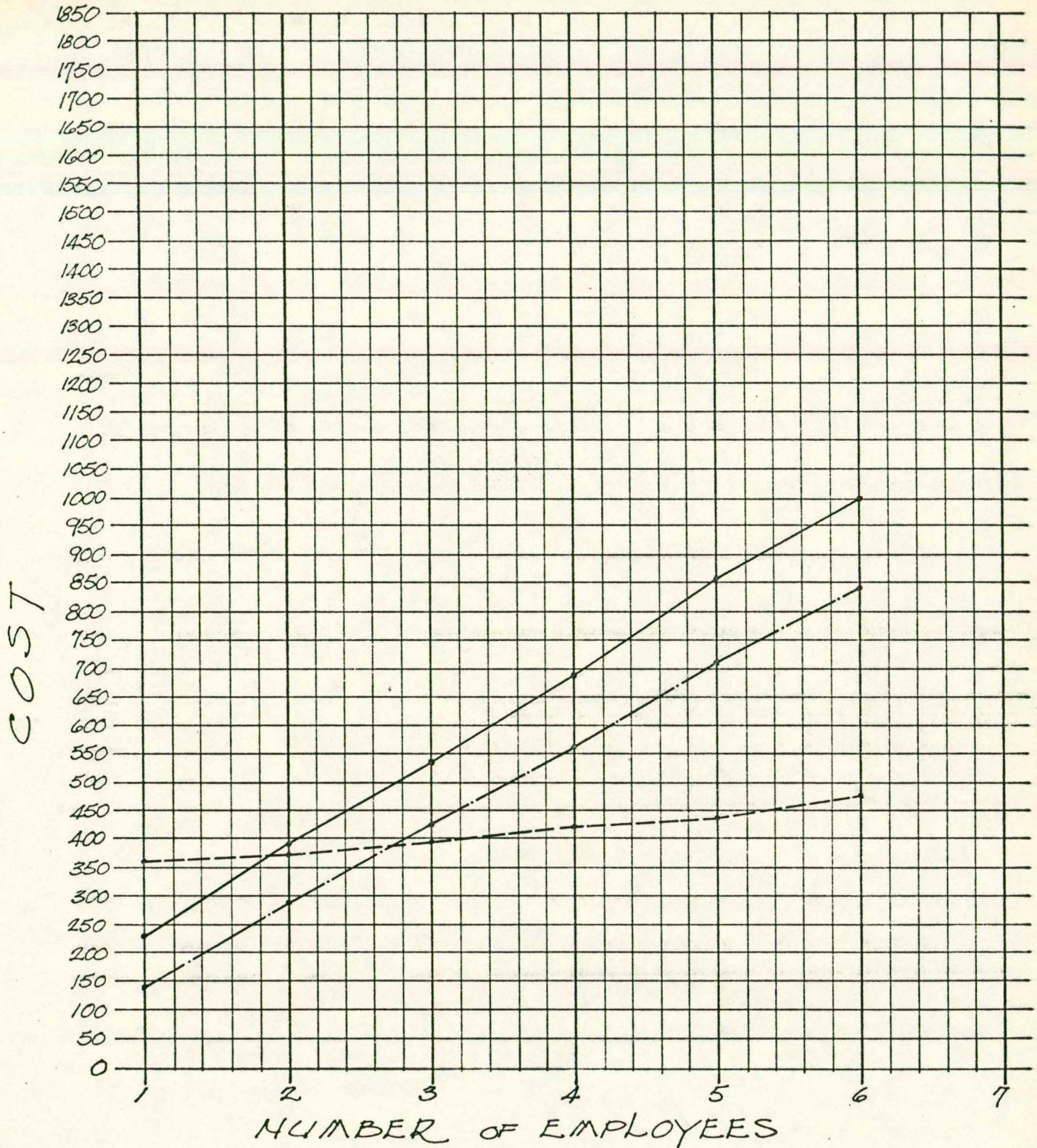
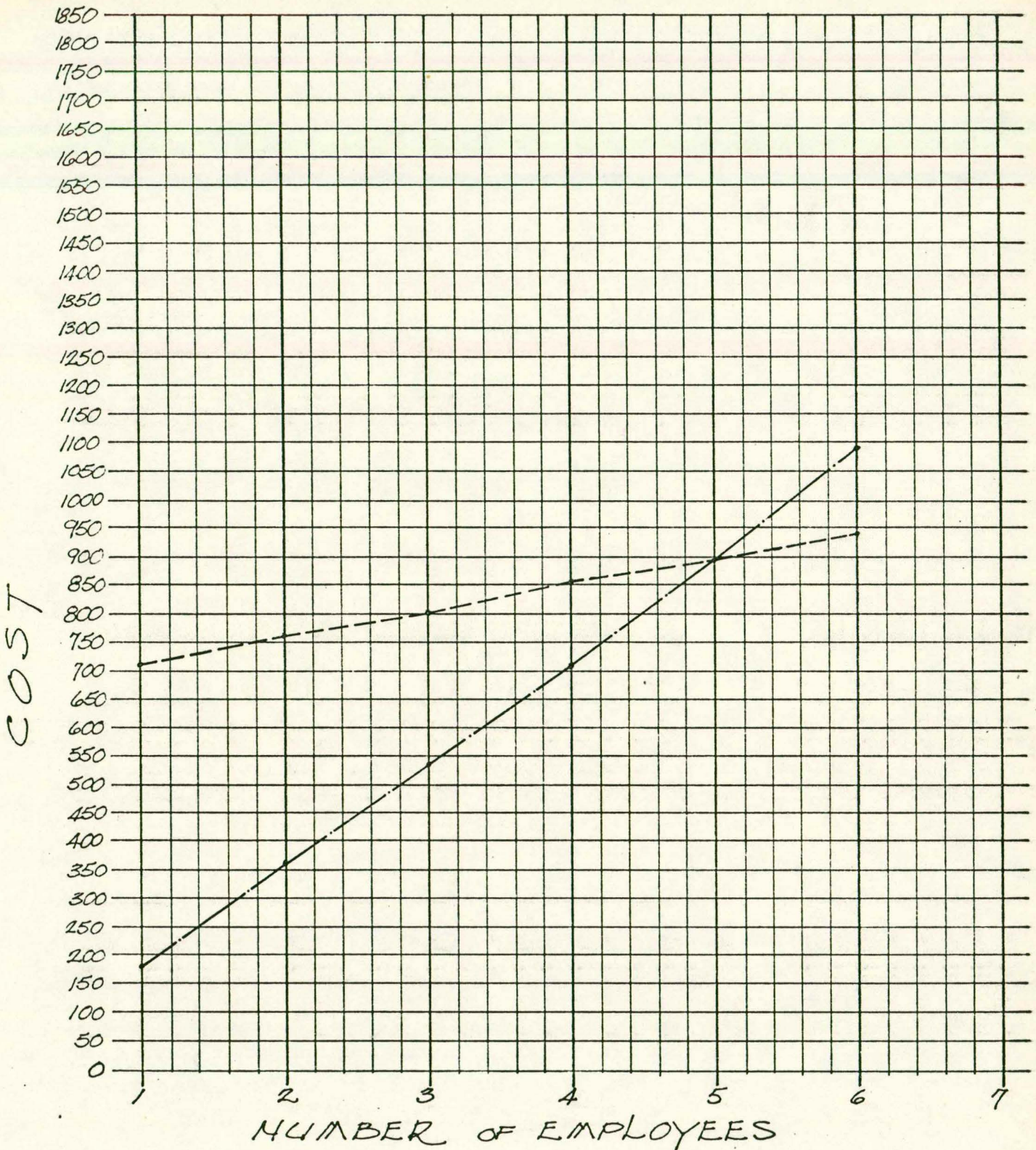


FIG. 2

LEGEND  
STATE AIRCRAFT ---  
COMMERCIAL - · -  
STATE VEHICLE - - -

DENVER



COST

FIG. 3

LEGEND  
STATE AIRCRAFT ---  
COMMERCIAL —  
STATE VEHICLE ···

# KANSAS CITY

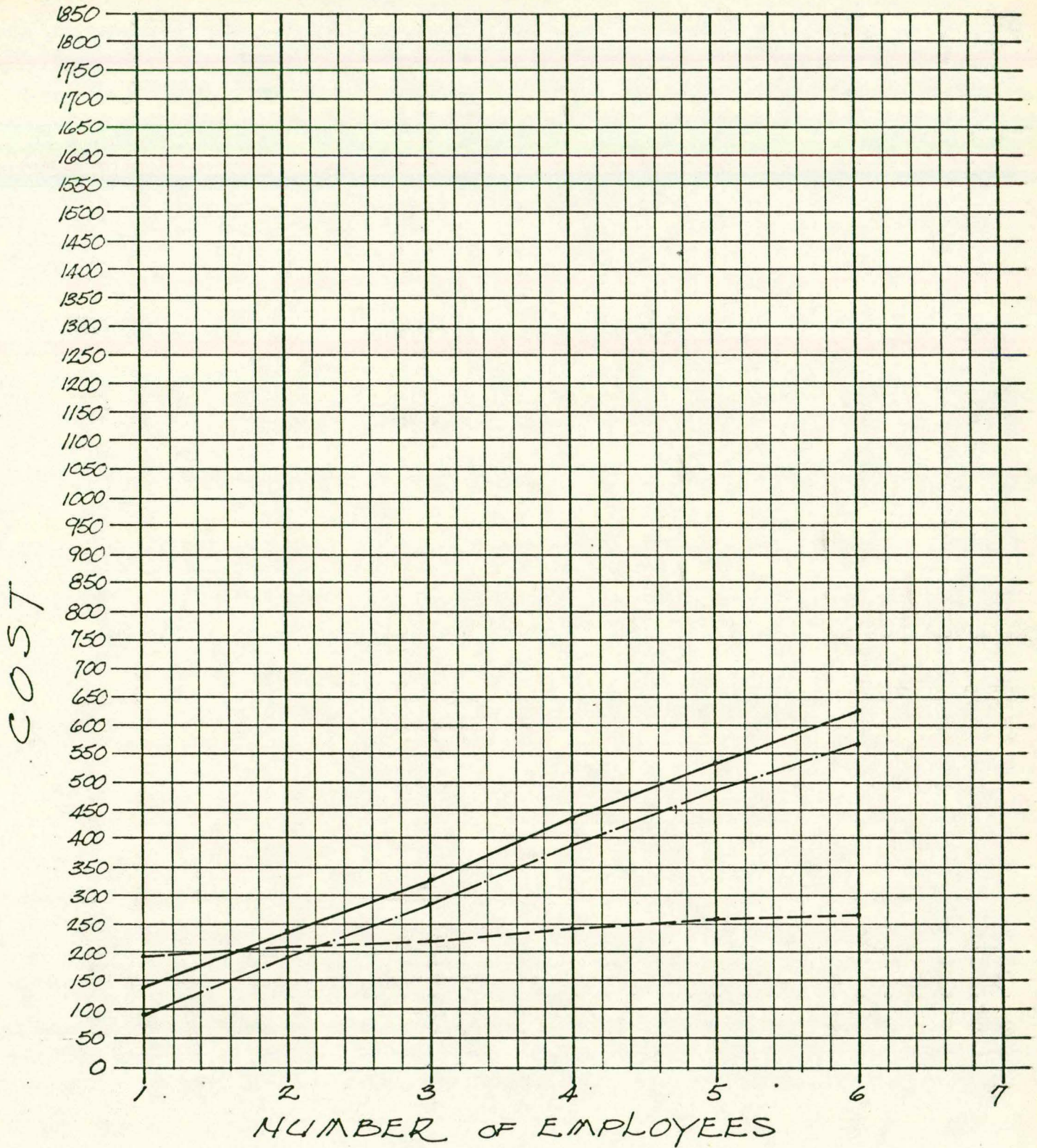


FIG. 4

LEGEND  
STATE AIRCRAFT ---  
COMMERCIAL —  
STATE VEHICLE —

Using the 1973-74 revised distribution of employees transported shown on Schedule H, and the computed cost of traveling to these destinations as shown in Schedules I-1 through I-4, the estimated savings can be computed assuming a small jet aircraft were available for use by state employees.

Schedule J reflects a net savings of \$35,059 for Fiscal Year 1973-74.

Department of General Services  
AIRPLANE STUDY

Schedule J  
Page 1 of 1

Estimated Savings if State Plane (Small Jet) had been Available and Centralized Scheduling had been used  
for Fiscal 1973-74 Travel

	<u>Total Commercial Passengers</u>	<u>Total Cost per Employee</u>	<u>Total Commercial Airline Cost</u>	<u>Total Passengers to be Tran.</u>	<u>Seat Capacity</u>	<u>Total Number of Trips</u>	<u>Six Passenger Cost</u>	<u>Total State Plane Cost</u>	<u>Total State Plane and Comm. Cost</u>
Washington D.C.	382	305	116,510						
Chicago	344	142	48,848						
Denver	330	180	59,400						
Kansas City	248	96	23,808						
Total Commercial Cost	<u>1304</u>		<u>248,566</u>						<u>248,566</u>
Cost Using State Aircraft & Commercial *									
Washington D.C.	183	305	55,815	199	6	34	1558	52,972	108,787
Chicago	90	142	12,780	254	6	43	465	19,995	32,775
Denver	178	180	32,040	152	6	26	949	24,674	56,714
Kansas City	78	96	7,488	170	6	29	267	7,743	15,231
Total	<u>529</u>		<u>108,123</u>	<u>775</u>				<u>105,384</u>	<u>213,507</u>
Estimated Net Savings									<u>35,059</u>

\* Commercial air travel would be necessary for less than the economical passenger load.

Since utilization (number of hours flown per year) is a prime factor in determining the cost effectiveness of owning an aircraft, Schedule K indicates the total statute miles and the total hours that would have been necessary to transport the number of passengers shown on Schedule J.



Department of General Services  
 AIRPLANE STUDY

Schedule K  
 Page 1 of 1

Estimated Usage of a State-owned at Full Passenger Load  
using 1973-74 Travel

<u>Destination</u>	<u>No. of Roundtrips</u>	<u>Roundtrip Statute Miles</u>	<u>Total Statute Miles</u>	<u>Speed Statute Miles/hour</u>	<u>Total hours of Utilization</u>
Washington D.C.	34	1792	60928	334	183
Chicago	43	598	25714	334	77
Denver	26	1188	30888	334	93
Kansas City	29	314	9106	334	28
			<u>126,636</u>	334	<u>381</u>

## RECOMMENDATIONS

1. The transfer of all state-owned aircraft and administration of each aircraft into a pool would not be of any practical or economic advantage, due to the high utilization of some departmental aircraft and scattered locations throughout Iowa. Since there are only three agencies owning aircraft that would not be in the pool, centralizing the accounting procedure would be of little value, therefore it is recommended that only the following aircraft be combined into a centralized pool-operated, scheduled and maintained by the Aeronautics Division of the Department of Transportation:

<u>Department</u>	<u>Aircraft</u>
Aeronautics	Piper PA-24
Conservation Commission	Piper PA-23-250 (Aztec)
Public Safety	Cessna 182
Public Defense	Cessna 421

The physical location, the expertise available, and the possibility of hangar expansion at the Aeronautics Division are factors that outweigh placing the aircraft pool with any other department.

This Cessna 421 is included in the pool because both engines have been overhauled during the past two years which would extend its usefulness for at least two more years. The Cessna 421 would be used primarily for in-state travel purposes and periodic out-of-state travel purposes.

2. The Bellanca should be sold and all receipts credited to the aircraft pool revolving account. The airplane travel needs of the Attorney General's Office could be met by the pool operation.

3. Every consideration should be given to the purchase of a small business jet to meet the needs of state employee in-state and out-of-state travel particularly to Washington D.C., Chicago, Denver and Kansas City. An aircraft with long range speed capabilities and short field landing capabilities would enhance the versatility of the pool and provide the proper mix of aircraft available to fly to any destination at an economical rate and a realistic passenger load.

4. The pool operation should establish five full-time pilot positions in the following manner:

(2)	1st Pilot - Range 32	15,167 - 21,341
(3)	2nd Pilot - Range 28	12,478 - 17,557

This would provide a pilot and co-pilot for the small jet during all flight time, a pilot and co-pilot for the Cessna 421 during instrument flight time, and a pilot for passenger service flying visually with other aircraft.

5. It is recommended that all state personnel requiring air travel submit their authorized and approved request to the Aeronautics Division for scheduling purposes. If that request cannot be met, then commercial airlines may be contacted. Chartering aircraft should be kept to a minimum and considered only on an emergency basis.

6. It is recommended that the cost study relating to providing maintenance service (mechanics etc.) to state-owned aircraft be deferred until enough experience is gained in the actual operation of a centralized pool.

7. Schedule L shows the total estimated annual cost of operating the aircraft pool at approximately \$268,000. This cost is based on five airplanes flying a total of 1900 hours at their respective operating rates per hour or \$110,700 plus fixed cost of crew, insurance, office support and depreciation at \$157,290.

To establish a solvent revolving fund, the rate per hour charged to state departments for the use of pooled aircraft should be determined by using the total operating cost plus fixed cost (prorated by statute miles traveled) divided by the number of hours flown by each aircraft. Since the utilization of each pooled aircraft is relatively unknown at this time, it is recommended that the department be charged for operating cost and that the fixed cost be appropriated until such time billing rates can be determined based on historical utilization. All financial statements relating to the aircraft pool should reflect both operating and fixed costs.

8. It is recommended that all funds currently appropriated or retained in revolving accounts to support the operation of any aircraft recommended for pooling, should be transferred to the "Pooled Aircraft Account."

Direct Operating Cost:

Piper PA-24  
 Piper PA-23-250 (Aztec)  
 Cessna 182  
 Cessna 421  
 Business Jet  
 TOTALS

Fixed Operating Cost:

Crew: 2 Pilots II @ \$18  
 3 Pilots I @ \$15  
 Insurance  
 Office Support (Clerical)  
 Depreciation:  
 Piper PA-24 4.0%  
 Piper PA-23-250 (Aztec)  
 Cessna 182 3.8%  
 Cessna 421 10.0%  
 Citation 3.58%  
 Total Depreciation  
 Total Fixed Cost  
 Total Cost of

Piper PA-24  
 Piper PA-23-250 (Aztec)  
 Cessna 182  
 Cessna 421  
 Citation

APPENDIX

IOWA STATE UNIVERSITY  
OF SCIENCE AND TECHNOLOGY  
Ames, Iowa 50010

M E M O R A N D U M

Date: January 7, 1975

To: Mr. Stanley L. McCausland  
Director of General Services

From: Mr. B. H. Watkins *B.H. Watkins*  
Director, University Flight Service

Enclosed is the information requested relative to the aircraft owned and operated by Iowa State University.

I have been in communication with Jerry Gamble of your staff regarding details of this request and the deadline date of December 30, 1974. He agreed that, due to the number of aircraft we own and operate, an extension past December 30 would create no problem.

The form provided did not fit our operation in all respects so I have taken the liberty of modifying it. All of the information requested has been furnished, along with additional information felt to be pertinent, but in the form we maintain our records. (as an example charges/mile rather than charges/hour). Again, I have conversed with Mr. Gamble about some of these differences.

It seemed absolutely necessary to include more than just the statistical report that was requested. The Flight Service Department operation at Iowa State University is an integral part of the University's total program and a bare statistical treatment could not tell the real story. You will, therefore, find some background information about the Flight Service Department operation to provide you with more than a statistical picture.

Your request for comments is appreciated and the opportunity is accepted here. It should be noted that the aircraft owned and operated by Iowa State University for the transportation of staff have, for the most part, come from unrestricted gifts or grants. It would not seem logical, therefore, to place these aircraft in a general state pool so that the university could not have first call on their services.

The safety factor is one that is of great concern to us all. If aircraft maintenance, pilot proficiency and scheduling are separated from the user, the problem of assuring a safe operation becomes a serious one for the user. Pooling aircraft scheduling and maintenance cannot in any way be compared with a car pool operation.

Mr. Stanley L. McCausland  
January 7, 1975  
Page 2

Pilot proficiency in a specific model of aircraft is very important to safety. It would not be wise or safe to have pilots flying unfamiliar aircraft and this could easily result from the pooling of aircraft and pilots.

The scheduling process would be a very difficult one in a pool operation, and could easily create inefficiencies. Ferrying aircraft between Ames and Des Moines is a very expensive operation. Also, the give and take of our staff to make combination flights work would be very difficult if not impossible from an aircraft pool operation.

The use of a commercial air taxi operation would be very costly as shown in the sample calculations with each of our aircraft. Also, the availability of such a service in Ames is a very real question.

It should be clear that the university can see no advantages to the inclusion of its aircraft in a state pool of aircraft. It should also be clear that the university considers the operation of its own aircraft as an integral part of its total operation and would have to curtail service to the state if it should be eliminated,

Thank you for the opportunity to comment on this matter.

BHW/bj  
Enclosure



BRUCE H. VAN DRUFF, CHAIRMAN  
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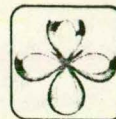
DIRECTOR:

FRANK BERLIN

# Iowa Aeronautics Commission

STATE HOUSE

Des Moines, Iowa 50319



Iowa  
a place to grow

December 30, 1974

Mr. Stanley L. McCausland  
Director of General Services  
Department of General Services  
State Capitol Building  
LOCAL

RE: Department of General Services Study of State Aircraft

Dear Mr. McCausland:

Our aircraft is basically a day VFR only aircraft. 95% of our flying is done under these conditions (day VFR). We do not fly our aircraft under instrument weather conditions because we do not have weather radar, prop deice, or wing deice systems. We do not fly our aircraft at night because it is a single engine aircraft. The 5% of our flying time that we do use this aircraft for either night or instrument flying is only under the best conditions and when the circumstances leave us no other alternative.

For this reason and because of the fact that our aircraft must be available to us on a moments notice, we do very little transporting of state employees other than those in our office. Since this is the case, we have no established charge per hour for the use of our aircraft by other agencies.

Enclosed you will find your completed questionnaire and a copy of our aircraft logs for fiscal 1974. We have been in contact with Mr. Jerry Gamble for some time in regards to this matter. That is why our comments are abbreviated. I hope that this information will be of benefit to you and if we can be of further assistance, please feel free to contact us at any time. Thank you for the opportunity to supply information for this study.

Sincerely,

Timothy J. Griffith  
Chief Pilot

Enc.

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FRED A. PRIEWERT, Director  
300 Fourth Street, Des Moines, Iowa 50319  
515/281-5145

An EQUAL OPPORTUNITY Agency

January 16, 1975

Mr. Stanley L. McCausland  
Director of General Services  
State Capitol  
L O C A L

Subject: Comments on the State Aircraft Study

Dear Mr. McCausland:

Attached is the completed report for 1973-74 which was requested by your office. In addition, we have taken the liberty of attaching summaries for calendar year 1972 and 1973 which show in some detail the usage of our aircraft.

A similar breakdown for 1974 is not yet available. However, it will generally show the same pattern with the exception that our use of rental aircraft was considerably higher. We traded in the old aircraft early in 1974 and did not receive a replacement until Spring. In addition, the current aircraft was damaged in a landing accident in late Summer and was in the repair shop for approximately six weeks. In both of these cases, we rented aircraft and continued to utilize the services of our pilot.

Our current aircraft is a twin engine Piper capable of carrying the pilot and five passengers. It was also equipped for aerial photography by both our department and the Geological Survey Department. It is equipped to allow two-way radio communication with our Conservation Officers. If you will recall, we also insisted on an aircraft that was capable of landing and taking off from the many marginal, unimproved airstrips throughout the State of Iowa.

We used the aircraft for many purposes besides hauling passengers. The Law Enforcement Section relies upon the aircraft as an aid in spotting deer poachers and other conservation law violators. Surveys are flown to check for possible encroachment on state-owned and sovereign lands. It is frequently used to distribute fish, both in-state and to transport them from hatcheries outside of the state. We also use it to transport State employees to out-of-state meetings where the cost of using our aircraft is less expensive than paying commercial air fare. The aircraft is also useful in conducting

January 16, 1975

low-level waterfowl and game surveys.

We feel our aircraft program has been successful and efficient, because we have an aircraft that will meet most of our requirements and pilots who have been proficient and willing to work when needed.

Our aircraft is available to anyone who wishes to schedule it at any time. This means that the pilot must be willing to fly a substantial amount of time at night and on weekends. The flight scheduling is handled as a joint effort among the Director's secretary, the pilot, and those wishing to use the aircraft. Efficient scheduling depends upon the close cooperation of all involved. For example, a flight to Cedar Rapids and back may be shared by more than one person or with another department if the secretary is able to arrange minor compromises in arrival and departure times. The pilot may fly someone to northeast Iowa for the day, make a short hop to the Mississippi River, pick up a Waters Officer and survey a portion of the river for enforcement or encroachment problems, return to Cresco, pick up the passenger at the end of his business, and return him to Des Moines.

An aircraft pool would be advantageous to our department in several ways. There are times when a single engine aircraft would be better suited for our purposes. With a pool, the proper aircraft could be scheduled. The replacement of the aircraft always presents a difficult budgeting and legislative problem. With the pool, this would be resolved.

On the other hand, there might be disadvantages to a pool. Since the pilot did not work for the department, he might be as responsive to the needs of a department's program. Scheduling might be subject to many changes because of "bumping" by some who imagine themselves higher in rank than others. For example, a scheduled waterfowl survey flight might get "bumped" if the Chairman of the Legislative Appropriations Committee for General Services decides at the last minute he needs a ride.

Another reason our aircraft program is successful is that we have a number of people in locations throughout the State with ground transportation. Thus, it is not an extremely problem to arrange transportation to and from airports. Other departments do not have this built-in advantage.

If the aircraft pool is approved by the Legislature, please remember that our aircraft has been purchased one-half with General Fund money and one-half with Fish and Game Trust Fund money. If the aircraft were placed into the pool, it would be necessary to reimburse the Fish and Game Trust Fund for one-half of the remaining worth of the aircraft.

Mr. Stanley L. McCausland  
Director of General Services  
State Capitol  
L O C A L

Page 3

January 16, 1975

Generally, our department would not object to an aircraft pool if we could get equal or better service than we are currently receiving. This means:

1. Adequate aircraft and skilled pilots.
2. Available when needed.
3. Skilled and proficient scheduling.
4. Ability to carry out special programs - law enforcement, low-level surveys, aerial photography, fish transport, etc.
5. Scheduling not subject to frequent pre-emption.

We appreciate the opportunity to provide input to this study. If we can be of further assistance, please ask.

Sincerely,



Fred A. Prievert, Director  
Iowa Conservation Commission

FAP:SCK:cs

cc: Division Chiefs  
Aircraft Pilot



**HEADQUARTERS IOWA NATIONAL GUARD**  
**Office of The Adjutant General**

*Camp Dodge*

MAILING ADDRESS:

P. O. BOX 616 DES MOINES, IOWA 50303

7 January 1975

REPLY TO

ATTN OF: AGIA-ANG

SUBJECT: State Aircraft Utilization Study

TO: Director, General Services  
State Capitol  
Des Moines, Iowa 50319

1. This response to your letter of 12 December 1974 will include the requested data relative to the Cessna 421, operated by the Department of Defense, and in addition will comment on the following:

- a. Leasing of various types of aircraft
- b. Comment on hangar facilities
- c. Comment on feasibility of consolidated control of State owned aircraft
- d. Recommendations based on data and past experience available to the undersigned

2. Attachments #1, #1A, #1B and #1C are in response to your letter of 12 December 1974, paragraphs #1 and #2. The attachments are self-explanatory and give a detailed account of our operational experience for the period requested. The assembly of this data was coordinated with Mr. Gamble.

3. The leasing of aircraft was explored and the most formalized leasing (with option to purchase) program was the one developed by Cessna Aircraft Company relative to the Cessna Citation. An outline of this leasing arrangement is enclosed as attachment #2 and #2A. To make this program more applicable to local evaluation, Cessna Aircraft Company was asked to establish a trade-in value of the presently owned Cessna 421. The \$90,000.00 trade value can be applied to the outright purchase of a Citation, or can be applied toward a leasing arrangement. The enclosed letter, attachment #2B, gives the specific details relative to the trade-in value established as of 1 January 1975.

4. Hangar facilities as well as State managed aircraft maintenance will be the key factors in the successful consolidation of State aircraft operations. I will deal more specifically with the maintenance in the following comments relative to consolidated control of State owned air-

craft. Hangar facilities at the Iowa Air National Guard Base have been used for the State aircraft operated by the Department of Public Defense. The space available for this purpose is limited to the presently possessed Cessna 421. Additional aircraft or larger aircraft cannot be accommodated. A facility suitable for the hangaring and maintenance of three or four twin engine aircraft should be acquired as a part of the consolidation of State aircraft operations. Long range plans should consider acquisition of a facility capable of providing shop space as well as hangaring the selected aircraft. This facility should be located on the airport from which the consolidated aircraft operations activities could best serve the using State agencies.

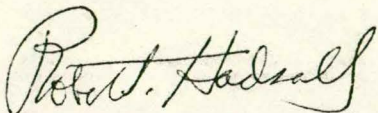
5. The aircraft presently owned by the State of Iowa are not utilized frequently enough to get the most economy in the cost of operation. Better coordination of State travel requirements and aircraft availability must be obtained in order to get the most from the dollars invested in operation and maintenance of the State aircraft. If the aircraft operations are consolidated so that one agency can match all travel requirements with the aircraft available, much improvement in aircraft utilization can be achieved and the overall cost of travel by State employees can be reduced.

6. Another factor in the economy of operation of State aircraft is a more practical mix of aircraft types. At the present time the State owns several small twin engine aircraft with limited passenger capability and similar range and speed. By replacing some of the present aircraft with larger and faster aircraft which have a greater operating range, a great deal more flexibility and capability would be available in meeting the State travel requirements. Much could be accomplished with the consolidation of trips and the joint use of a larger aircraft by several departments.

7. Contact was made with several states who have a consolidated aircraft operation. In all other states the aircraft operations and maintenance, as well as the scheduling of trips, is managed by the Department of Transportation or the Aeronautics Commission. It seems unrealistic to establish such a complex operation and management responsibility in the State Vehicle Dispatcher's office. The manager of this program should devote all his efforts to the development of sound operational and maintenance procedures to include the standardization of pilot procedures and periodic proficiency checks of pilot procedures. These responsibilities, coupled with the need to develop a coordinated travel scheduling capability that will provide all State departments with the most economic travel arrangements, will require a full time manager with a competent staff of administrative and maintenance personnel. Enclosed as attachment #3 and #3A is a letter from the Louisiana Department of Public Works, Aviation Division. This state seemed to have progressed further than most states in a consolidated operational concept. Also enclosed for your information is a copy of the Executive Order No. 14 which established the consolidated aircraft operations program.

8. After twenty-plus years of watching the State's air transportation requirements grow, I have made some personal observations that I feel are valid. In the early 1950's, the Army and Air National Guard aircraft were used to provide the Governor and other State officials limited air transportation. Having flown every State Governor since Governor Blue's term in office, on a frequent basis, I was privileged to see the State's need for air travel steadily outgrow the limited capabilities of the National Guard. Without centralized control of air travel requirements, the present-day duplication of departmental aircraft has developed. This uncoordinated development has resulted in the increasing operational costs and less than ideal utilization of the aircraft. Another factor that must be recognized is the need for supervision of the pilot personnel. In spite of the FAA regulations, it is possible that an individual pilot operating without supervision can become negligent in his operating procedures. With the number of aircraft and pilots increasing, pilot proficiency and flight safety become a more important aspect of the management program.

9. It is recommended that consideration be given to establishing a consolidated aircraft operations and maintenance program for the State of Iowa.



ROBERT S HADSALL, Colonel  
Chief of Staff, Iowa ANG

Atchs  
a/s

The seal of the Iowa Department of Public Safety is circular, featuring a central figure holding a scale and a sword, surrounded by the words "DEPARTMENT OF PUBLIC SAFETY" and "PROTECTION ALL RAYS".  
**PUBLIC SAFETY**

Robert D. Ray  
GOVERNOR

Charles W. Larson  
COMMISSIONER

April 9, 1975

Mr. Stan McCausland, Director  
General Services Division  
State House  
LOCAL

Attention: Jerry Gamble

Dear Mr. McCausland:

After conferring with Jerry Gamble of your office relative to your forthcoming report on the use of state-owned aircraft, I respectfully submit the following:

The policy of the past Chief was to use the Cessna 182 only for transportation purposes. However, with the initiation of the 55 MPH speed limit and the policy of the new Chief, this aircraft is now used primarily for traffic work every day weather permits.

The information sent to Mr. Jerry Gamble of the General Services Department on this aircraft covered the time period from July 1, 1973 to July 1, 1974, and was a period prior to this aircraft being used for traffic enforcement. This time period showed the aircraft was flown a total of 199.8 hours. It should be pointed out that the time period from July 1, 1974 through December 31, 1974, it was placed on traffic enforcement and was flown a total of 383 hours in a six-month period. A total of 3,477 traffic violations were written from this aircraft during this period. Based on this, we would be flying this aircraft in excess of 600 hours yearly. It appears to our Department it would be difficult to plan on such extensive use of this aircraft, should we have to rely on drawing it from a pool.

Since last July, we have placed an additional pilot with our air wing solely for the purpose of using this aircraft daily in traffic enforcement work and are considering adding another pilot in the Des Moines Post so there would be two pilots per aircraft, thus we could use the planes from dawn to dusk.

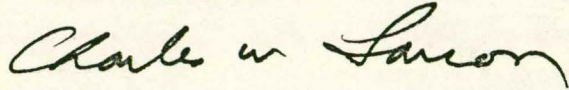
In our opinion, the more ideal solution to the disposition of this aircraft would be for the Highway Patrol to retain



Mr. Stan McCausland  
April 9, 1975  
Page 2

full use of it for traffic enforcement. Should an occasion arise in which another Department would need an aircraft for a given purpose, we could furnish them the aircraft and pilot for the particular assignment.

Sincerely yours,

A handwritten signature in cursive script that reads "Charles W. Larson". The signature is written in dark ink and is positioned above the typed name.

CHARLES W. LARSON  
Commissioner

CWL:me