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Poll of Helicopter Operators Yields Data On Flight Operations and Fleets

Difficult economic times have put increasing pressures on helicopter operators. According to a recent industry survey, flight hours and revenues were down in 1992, although the overall fleet increased somewhat.

Editorial Staff Report

Helicopter Association International (HAI) initiated a *Survey of Operating Performance* in 1993 to provide relevant operational data and statistics to its members, the helicopter industry and other interested organizations.

The HAI Economics Committee developed the survey, which contained two parts. The first part asked all operators about basic operational statistics (number and age of helicopters, number of employees, types of operations, etc.). The second part asked commercial operators about basic financial data (revenues, profitability, sources of financing, etc.).

Approximately 2,000 surveys were mailed to HAI members and other helicopter operators. Usable responses were received from 308 operators, including 26 from

outside the United States. The respondents operated a total of 1,657 helicopters. This response represented about 15.5 percent of the operators contacted and about 20 percent of the active fleet in the United States. This provided a fair level of confidence in the trends and statistics based on the responses. All responses were entered into a database that analyzed the responses.

HAI first conducted a survey of operating performance in 1990. However, the response rate to that survey was very limited (99 responses out of 2,000 sent). Although the 1990 survey provided some useful information, the poor response rate resulted in a relatively low level of confidence in the results of that survey. As a consequence, no attempt was made to make comparisons between the two surveys.

For this reason, it has been very difficult to make meaningful comparisons between the 1990 survey results and the results of the current survey.

The 1993 survey underscores the diversity of helicopter operations (Figure 1):

Just more than half of all operators were commercial operators; the other half were corporate/private and public service operators.

Fleet sizes ranged from very small (35 percent of the operators have one helicopter) to very large (31 percent have four or more helicopters).

Corporate/private operators tended to have the smallest fleets; only 34 percent had more than one helicopter (Figure 2, page 3).

Helicopters were used for a remarkable array of applications that were broadly divided into six main categories:

31.3 percent personnel transport, 26.7 percent emergency medical service (EMS), public service or safety applications, 19.5 percent industrial support, 7.6 percent information gathering, 6.8 percent training, and 8.1 percent other/government contracts (Figure 3, page 4).

The survey also highlighted that 1992 was a difficult year for many operators. While overall the fleet increased somewhat, flight hours and revenues were down. These problems were particularly severe for large commercial operators. The operators expected 1993 to be somewhat better than 1992.

Extrapolating 1992 revenues reported by survey respondents indicated that overall commercial helicopter operators in the United States had revenues of about \$2.5 billion. Although commercial operations were varied, two types of operations dominated in revenue generation — oil and gas industry support and EMS operations.

All operators expressed great concern about operating costs, particularly the cost of maintenance (62 percent of

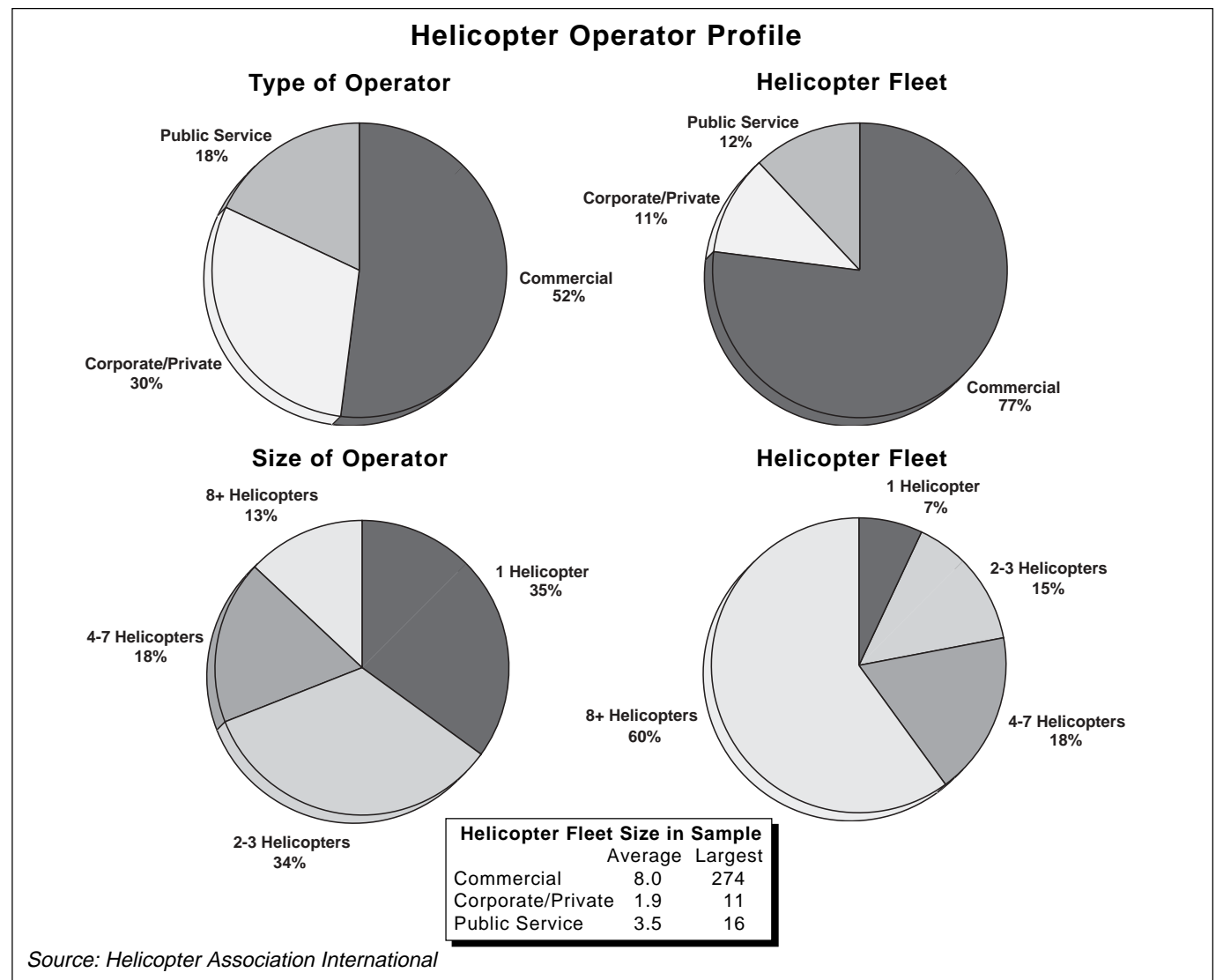


Figure 1

the operators) and the cost of insurance (50 percent of the operators).

A large number of operators bought only used aircraft because the additional cost of a new helicopter was not warranted by the increased capabilities of the new helicopter. This was particularly so for commercial operators and resulted in 58 percent of the commercial helicopter fleet being older than 11 years.

The average operator has existed about 11 years. Of significance was the fact that almost one-quarter of commercial operators were five years old or less, which showed that new commercial operators are continually developing. On the other hand, only 20 percent of corporate/private operators and 28 percent of public service operators were five years old or less. That few new operations of these types are being established can be inferred from these numbers (Figure 4, page 5).

Insufficient responses were received from non-U.S. operators to perform a detailed analysis. However, the non-U.S. operators who responded generally followed the same trends and had the same concerns as U.S. operators. A significant exception was that revenue per helicopter and per flight hour was significantly higher for these operators than for U.S. operators. At the same time, flight hours per employee were lower and average employees per operator were higher than for the U.S. operators.

For the purposes of the survey, operators were asked to classify themselves into one of three types: commercial, corporate/private and public service (Figure 1).

The responses indicated that commercial operators (those that operated helicopters for compensation) were the largest group, equal to 52 percent of the total number of operators and 77 percent of the helicopter fleet. Corporate/private operators (those that operated helicopters for a corporation, or for themselves, without receiving direct compensation for their flight activities) represented 30 percent of the operators, but only 11 percent of the helicopter fleet. Public service operators (those operators that were a government agency) comprised 18 percent of the total number of operators and 12 percent of the helicopter fleet.

When classified by size, small operators dominated — 69 percent of all operators had three or fewer helicopters. In addition, only 13 percent operated eight or more helicopters.

However, when classified by fleet size, the medium and large helicopter operators were dominant, with 78 percent of the total helicopter fleet.

The survey data allowed the analysis of three measures of operational productivity (Figure 3, page 4):

- **Employees per helicopter.** Corporate/private operators had the fewest number of employees per helicopter (3.14), while commercial operators had the greatest number (4.55) of employees per helicopter. Non-U.S. operators (mostly medium and large commercial operators) averaged 6.32 employees per helicopter. Commercial operators had reduced their number of employees per helicopter by about 7 percent since 1991. Corporate/private and public service operators did not indicate a

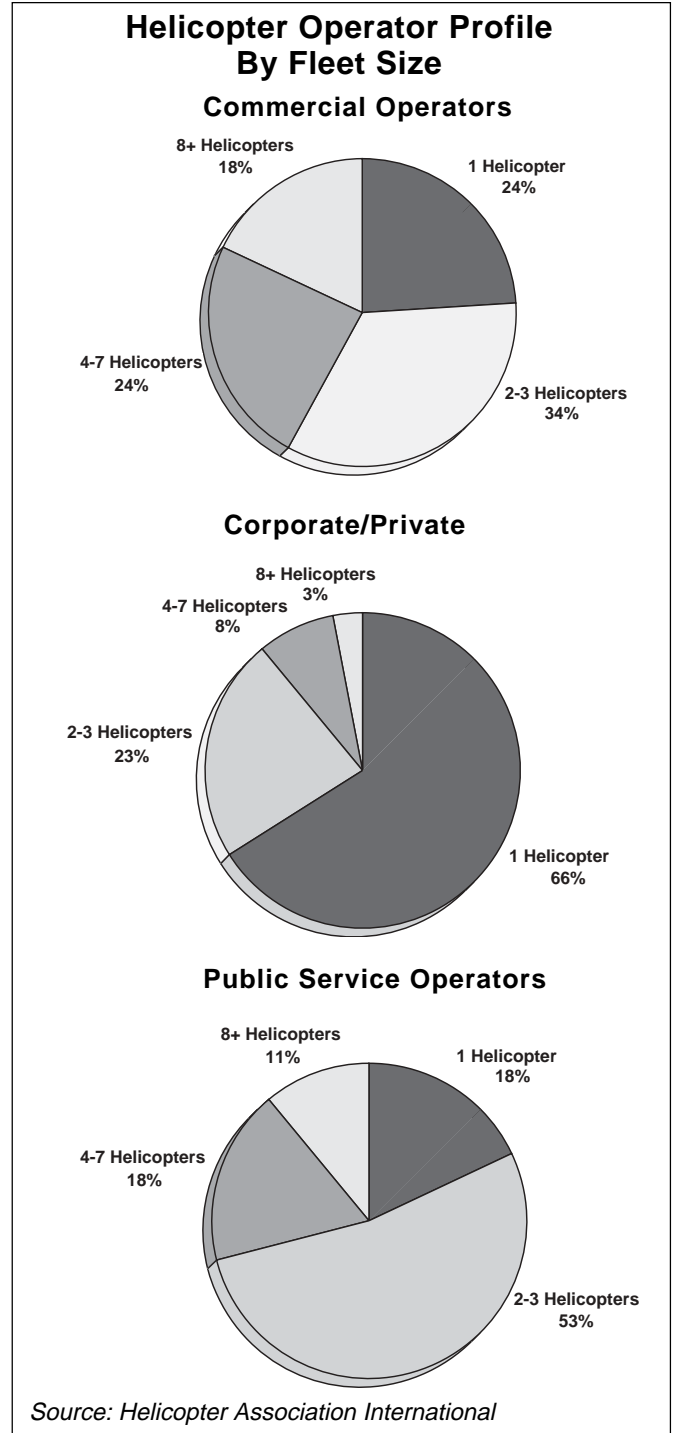


Figure 2

significant change in this measurement of productivity.

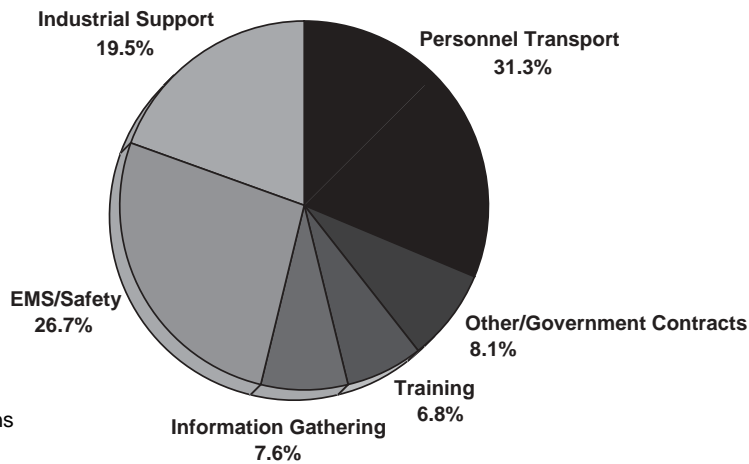
- **Flight Hours per Employee.** Corporate/private operators accrued about 125 flight hours per employee. Commercial and public service operators were very similar, with about 108-115 flight hours per employee. Non-U.S. operators averaged 65 flight hours per employee. Public service operators, however, experienced a significant change — a decrease of more than 10 percent since 1991. The other two groups of operators experienced

changes of less than five percent in this measurement of productivity.

- **Flight Hours per Helicopter.** Overall, commercial and public service operators had the highest utilization per helicopter (492 and 496 hours, respectively, in 1993). This is, however, a significant decrease from 1991, when this measurement of productivity was more than 540 hours per helicopter for each classification. Non-U.S. operators averaged 440 hours per helicopter in 1993.

Type of Operation and Source of Revenue

All Helicopter Operators



FAR: U.S. Federal Aviation Regulations
 EMS: Emergency Medical Service
 ENG: Electronic News Gathering

Helicopter Operators by Type and Size*

	Type of Operator			All	Size of Operator			
	Commercial	Corporate/ Private	Public Service		Helicopters			
					1	2-3	4-7	8+
Personnel Transport								
Charter/FAR 135	8.1%	4.8%	0.0%	5.6%	5.5%	5.5%	7.2%	4.8%
Corporate/FAR 91	2.6%	65.1%	3.3%	21.4%	41.1%	15.9%	9.0%	3.5%
Tour Operators	8.0%	0.4%	0.0%	4.3%	3.9%	4.6%	6.8%	1.3%
Industrial Support								
Agriculture	10.4%	1.8%	0.0%	5.9%	3.0%	8.2%	5.8%	8.8%
Logging/Lumber	1.4%	2.1%	0.1%	1.4%	0.0%	2.6%	0.3%	3.5%
Utility Support	6.0%	4.8%	1.2%	4.8%	3.9%	4.4%	6.8%	5.8%
Oil & Gas Support	6.0%	4.2%	0.2%	4.4%	2.9%	1.5%	5.0%	15.6%
Construction	5.0%	1.0%	0.7%	3.0%	4.3%	1.9%	2.8%	3.1%
EMS / Safety								
Fire Fighting	6.6%	0.3%	6.0%	4.6%	2.3%	4.4%	5.7%	9.6%
Public Service/Safety	2.1%	0.0%	58.1%	11.7%	2.4%	18.8%	11.4%	12.2%
EMS	14.1%	0.0%	16.8%	10.4%	8.9%	11.3%	6.2%	16.5%
Information Gathering								
ENG/Traffic/Photo	8.4%	10.4%	0.6%	7.6%	11.7%	4.7%	6.6%	6.5%
Training	12.1%	0.2%	2.2%	6.8%	4.9%	6.7%	13.5%	3.3%
Other/Government Contracts	9.1%	5.0%	10.7%	8.1%	5.3%	9.6%	13.0%	5.6%

Source: Helicopter Association International

* All columns do not total 100% because of rounding of numbers.

Figure 3

Commercial operators experienced a significant decrease in flight hours per helicopter in 1992, but were expecting to recover some of that loss in 1993. Public service operators were expecting the decrease in flight hours per helicopter to continue in 1993. Corporate/private operators were expecting a slight (3 percent) increase in flight hours per helicopter in 1993 when compared with 1992.

Reported average revenue per helicopter for commercial operators in 1992 was US\$556,473. This was a decrease of about 9 percent from 1991. However, because of the decrease in number of flight hours, average reported revenue per flight hour increased by just under 9 percent to \$1,103. At the same time, revenue per employee increased slightly to \$122,792 per employee, up from \$117,039.

Non-U.S. operators, mostly medium and large commercial operators, reported much higher numbers, as illustrated by the following ratios for 1992: revenue per helicopter, \$1,021,000; revenue per flight hour, \$2,477; and revenue per employee, \$170,700.

Survey Yields Data on Fleet Ages

Overall, 38 percent of the fleet was 11-15 years old and 19 percent was 16 years or older. Differences from the overall pattern appeared when examining the data by size and type of operation (Figure 4).

Commercial and corporate/private operators had the older fleets (58 percent older than 11 years for commercial operators and 54 percent older than 11 years for corporate/private operators). Public service operators, on the other hand, had younger fleets (51 percent less than 11 years old). Average age of the fleet was about 11 years.

Non-U.S. operators who participated in the survey had relatively young fleets (32 percent five years old or less, 26 percent six to 10 years old and 42 percent 11 years or older).

About 34 percent of all operators bought new equipment when they purchased helicopters and 38 percent bought used equipment. The remainder bought both new and

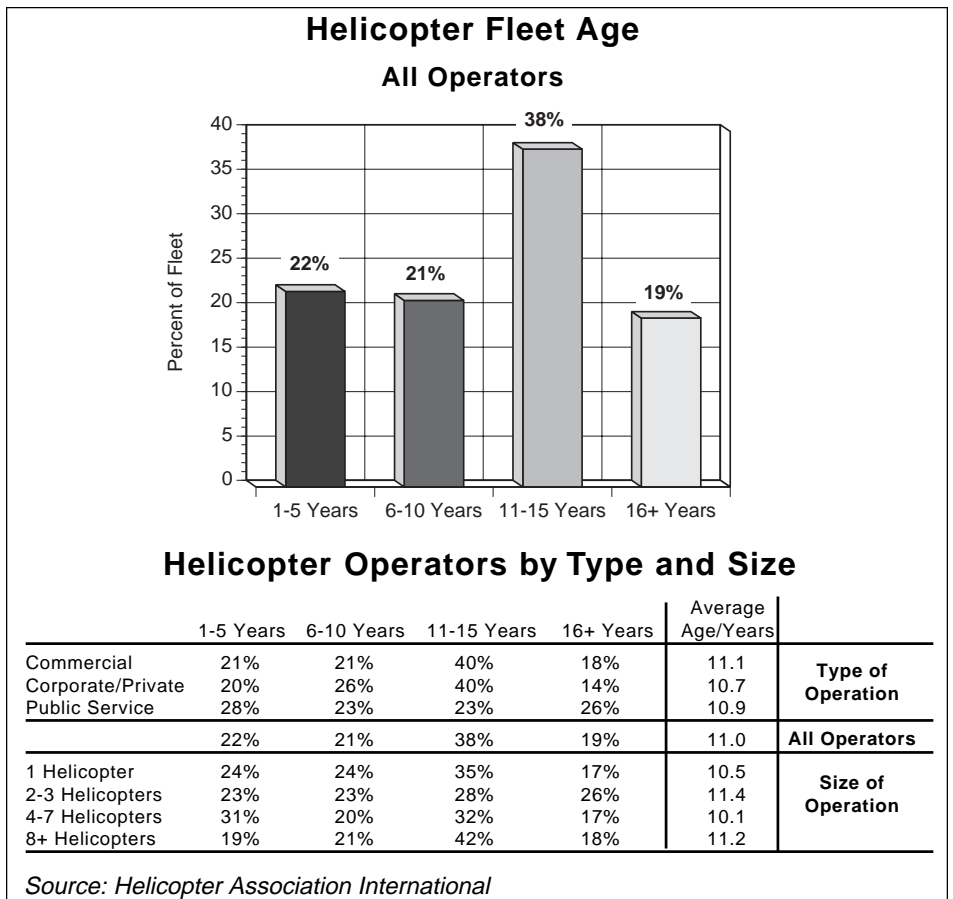


Figure 4

used. There were significant differences among the three groups of operators when examined individually.

About half (49 percent) of the commercial operators bought used and only 19 percent bought new. The majority of both corporate/private and public service operators bought new, rather than used. Non-U.S. operators (mostly commercial) who responded to the survey indicated that 32 percent bought new, 23 percent bought used and the remainder bought both new and used.

A very large percentage (88 percent) of all operators who bought used aircraft did so because of the cost advantage. Comments indicated that the much lower purchase price of a used aircraft outweighed the advantages of buying a new aircraft, because the new aircraft did not provide any significant operational advantages.

Other reasons mentioned included the convenience of getting an aircraft in the right configuration. This was particularly mentioned by the public service operators. Also mentioned was "availability," which meant that the aircraft could be put into service right away.

About 80 percent of non-U.S. operators also indicated that their reason for buying used was cost. Twenty percent gave their reason for buying used as availability.

Following is a breakdown by percentage of the various elements that composed the cost of operation. The major individual cost elements were:

- Maintenance, 22.6 percent;
- Salaries, 21.9 percent;
- Insurance, 11.1 percent;
- Depreciation, 10.5 percent; and,
- Fuel, 8.8 percent.

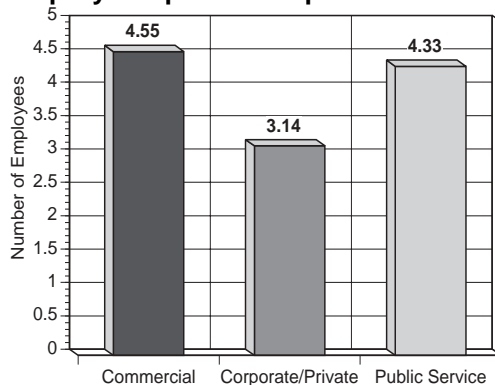
There was relatively little variation among the various types and sizes of operators in these major cost elements. The variations shown were most likely a reflection of the economies of scale of large vs. small operators, and the different types of operations.

The major cost concern of all operators was maintenance costs. This cost concern was mentioned by 61 percent to 66 percent of all respondents (including non-U.S. operators).

The second major concern involved insurance costs. This was mentioned as a concern by half (50 percent) of all

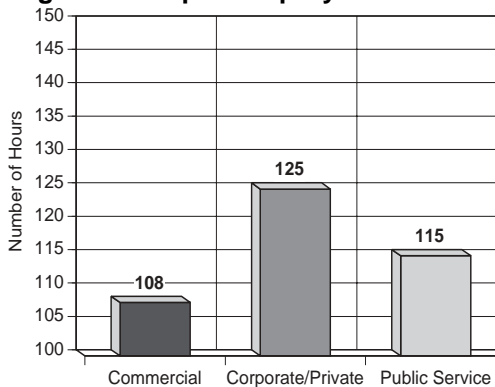
Productivity of Helicopter Operations

Employees per Helicopter — 1993



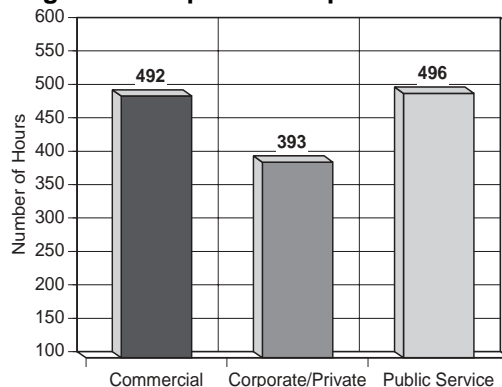
	1991	1992	1993
Commercial	4.91	4.42	4.55
Corporate/Private	3.19	3.24	3.14
Public Service	4.24	4.46	4.33

Flight Hours per Employee — 1993



	1991	1992	1993
Commercial	111	108	108
Corporate/Private	123	118	125
Public Service	128	116	115

Flight Hours per Helicopter — 1993



	1991	1992	1993
Commercial	547	475	492
Corporate/Private	394	382	393
Public Service	542	518	496

Source: Helicopter Association International

Figure 5

respondents. Nevertheless, a significant variation among operator groups was seen: commercial operators were most concerned (58 percent), while only 32 percent of public service operators were concerned about insurance costs.

Other cost concerns mentioned by at least 5 percent of the respondents included salaries, fuel and training, which were a particular concern to public service operators.

Annual Flight Operations Examined

Overall, approximately 31 percent of all operations involved personnel transport (Figure 5, page 6). About 27 percent of all operations were associated with EMS and public service/safety. Some 20 percent of all operations supported industrial activities. The remaining 22 percent included information gathering, training and other.

Among commercial operators, several types of operations were noted. Oil and gas support at 6 percent for large operators, EMS operations at just more than 14 percent and tour operations at 8 percent were clearly important sources of revenue for commercial operators. Training at about 12 percent was also important, because the more training there is, the more pilots there will be. Passenger transport represented about 65 percent of corporate/private operations. The remainder of corporate/private operations involved just about every other category of operation. In other words, corporations owned and operated helicopters for many reasons other than transporting passengers. Public service helicopters, as expected, were predominantly used in support of EMS and safety operations (75 percent). These aircraft, however, were also operated for a variety of other uses.

Non-U.S. operations appeared fairly similar. The main differences were more emphasis on oil and gas support and less for training and tour operations.

Survey data indicated the major source of revenue (78.3 percent to 88.4 percent) for all sizes of operators was flight operations (Figure 6). All sizes of operators had some other sources of revenue. However, they were all clearly secondary to flight operations. This pattern was the same for non-U.S. operators.

Overall, two activities dominated in generating revenues — oil and gas support and EMS (Figure 7, page 8). Together, these two generated almost 70 percent of the revenues. However, oil and gas support was a major generator of revenues for the large (8+ helicopters) operators only. On the other hand, EMS was a significant revenue generator for three of the four size groups.

Among the one-helicopter operators, electronic news gathering and other information gathering activities were major sources of revenues. For operators with two to three helicopters, EMS was the major revenue contributor. Operators with four to seven helicopters had no dominant

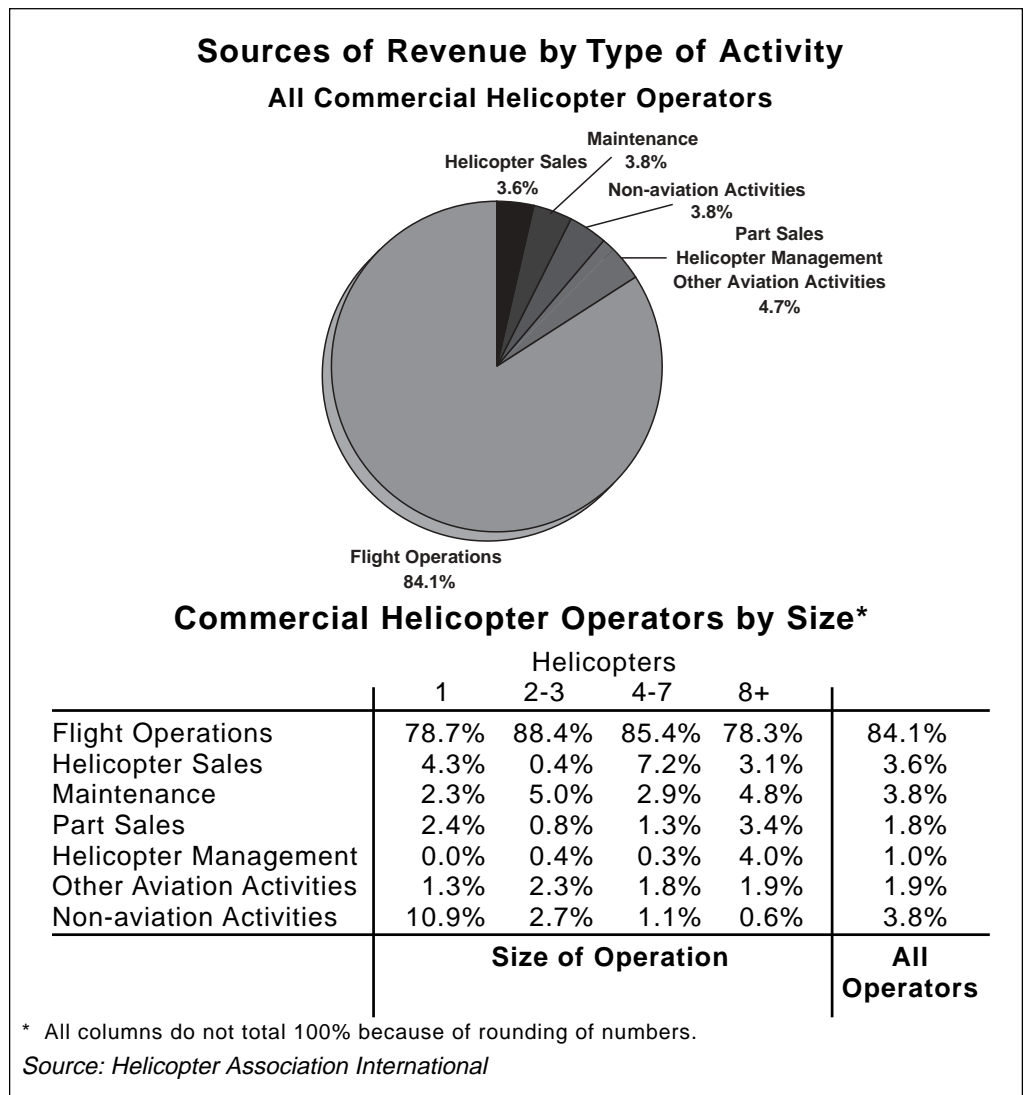
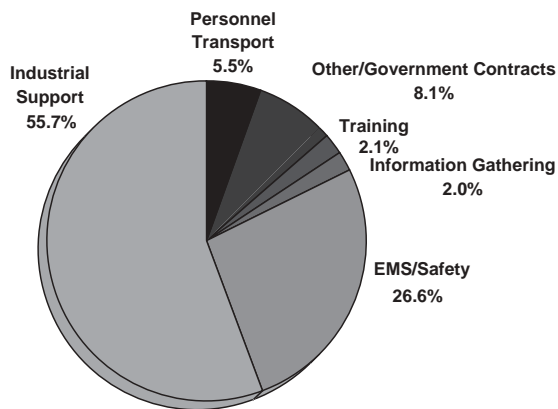


Figure 6

Revenues and Sources

All Commercial Helicopter Operators



FAR: U.S. Federal Aviation Regulations
 EMS: Emergency Medical Service
 ENG: Electronic News Gathering

Source: Helicopter Association International

Commercial Helicopter Operators by Size*

	Size of Operator				All
	1	2-3	4-7	8+	
Personnel Transport	Helicopters				
Charter/FAR 135	2.1%	4.5%	10.3%	1.1%	2.2%
Corporate/FAR 91	0.8%	0.5%	1.3%	0.3%	0.4%
Tour Operators	12.5%	5.2%	10.4%	1.6%	2.9%
Industrial Support					
Agriculture	0.5%	14.7%	15.5%	2.9%	4.8%
Logging/Lumber	0.0%	0.3%	1.1%	0.0%	0.1%
Utility Support	6.7%	2.2%	6.4%	1.6%	2.2%
Oil & Gas Support	0.1%	4.7%	0.3%	57.5%	47.2%
Construction	7.2%	3.1%	5.3%	0.6%	1.4%
EMS/Safety					
Fire Fighting	3.5%	6.9%	15.8%	2.3%	3.9%
Public Service/Safety	0.0%	0.3%	2.6%	0.1%	0.3%
EMS	16.9%	39.7%	2.7%	23.2%	22.4%
Information Gathering					
ENG/Traffic/Photo	37.2%	2.2%	9.1%	0.2%	2.0%
Training	9.6%	2.4%	12.3%	0.7%	2.1%
Other/Government Contracts	2.8%	13.2%	6.8%	7.8%	8.1%

* All columns do not total 100% because of rounding of numbers.

Figure 7

source of revenues. Significant activities included agriculture support, fire fighting support and training. Large operators, as noted, received a very large share of their revenues from oil and gas support and EMS.

Non-U.S. operators followed these general trends, with an even larger share of revenues obtained from oil and gas support.

Responses from commercial operators indicated that the sources of profits match those of revenues. Of the 155

commercial operators who responded to this question, 132 (about 85 percent) ranked flight operations as their principal source of profitability. Just as with revenues, numerous other sources of profits are indicated by the operators. Non-U.S. operators similarly derived the vast majority of their profits from flight operations. ♦

This article was adapted from the 50-page HAI Survey of Operating Performance. The survey can be obtained by contacting Helicopter Association International, 1619 Duke Street, Alexandria, VA 22314 U.S.

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