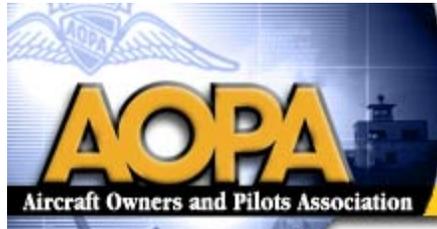


QUANTUM MARKET RESEARCH
MARKETING RESEARCH REPORT FOR:



IMPORTANCE AND SATISFACTION
OF FLIGHT SERVICE

June 9, 2004

I. BACKGROUND

A. The Issue

The FAA is conducting a study to compare the costs of providing flight service station services by the FAA versus the costs of contracting services to commercial companies. The 15-month study is being conducted under the guidelines of Office of Management and Budget Circular A-76, which directs government agencies to examine functions that might be performed by commercial sources. The circular recognizes that some functions are inherently governmental, and that government employees may be the best providers of the service.

The FAA operates 61 automated FSS's throughout the United States. The FSS functions in Alaska have been excluded due to its unique nature and requirements. Approximately 2,700 employees at 58 FSS's will be studied. Before initiating the competitive sourcing study the FAA, assisted by a feasibility study prepared by Grant Thornton LLP, determined that: a substantial portion of the FSS functions are commercial in nature; industry is capable and interested in performing the functions; and outsourcing will not compromise safety or homeland security.

The driving factors of the FSS A76 study were General Accounting Office (GAO) and Inspector General (IG) reports, published in 2001 that were critical of the current FSS program. These reports outline the escalating cost to maintain the current FSS program, the FAA's inability to effectively modernize the current FSS computer system, and widespread inefficiencies in the current FSS program. The current FSS system costs more than \$500,000 million annually, which breaks down to an approximate cost of \$15.00 per pilot contact. The reports recommend consolidation of FSSs in conjunction with OASIS deployment, citing significant cost savings.

A common misperception of the A76 process is that it results in privatization of a government function. This is not the case. The A76 is NOT a privatization study, nor is it a foregone conclusion that services studied will be contracted out. Most important, the current service provider (i.e. FAA) has a key role in the process, in that it submits its own business case analysis of its service and a plan for maximizing those services in the future.

B. The Importance to Our Members

The Flight Service Station (FSS) system is the only official source for aviation weather and is therefore an essential general aviation service. Unfortunately, the current FSS system is in a state of decline and disrepair. It relies on obsolete 1970's computer technology that no longer meets today's operational requirements.

Compounding the problem is the fact that current modernization plans are behind schedule and over budget. Without significant changes and a serious effort to explore opportunities for efficiency, reduction of system redundancies, and elimination of outmoded products and processes, pilots will experience a continuing degradation of FSS provided service.

I. BACKGROUND (cont.)

B. The Importance to Our Members (cont.)

The Aircraft Owners and Pilot Association (AOPA), as part of its duty, consistently evaluates initiatives, such as the A-76 process, that have an impact on general aviation activity. Specifically, AOPA through its advocacy initiatives seeks to influence aviation policy in ways that will have the most positive impact on its member's flying experiences.

To that end, AOPA, from time to time, conducts scientific research to understand and measure how proposed changes in policy might impact its members. In this case, AOPA seeks input from its members on how well today's FSS is meeting pilot needs and what impact, if any, the A-76 process will have on General Aviation pilots.

As a first step, AOPA wanted to measure importance and satisfaction with the current flight service system. In other words, if pilots are highly satisfied with and receive great value from today's flight service, then an argument could be made not to change it. Moreover, if a change does occur via the A-76 process, AOPA wants to define what a new system needs to deliver—what do pilots consider to be a high-quality flight service briefing?

In May of this year, a scientific, statistically-valid survey was completed that measured how effective flight service stations are today and whether or not AOPA members thought privatization of flight service was a good idea.

The findings of this research are presented here. The research objectives were as follows:

II. RESEARCH OBJECTIVES

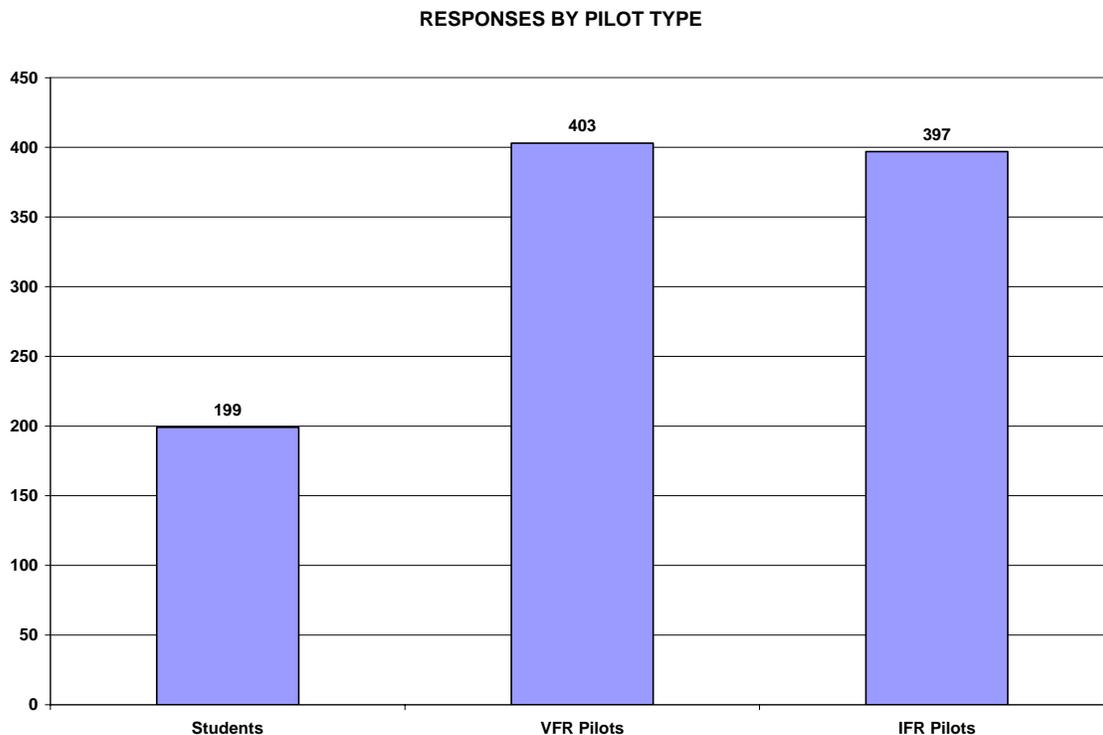
- Primary: Define what constitutes a quality flight service briefing
 - Timeliness of reaching a briefer
 - Completeness, appropriateness and accuracy of information received
 - Attitude and helpfulness of the briefer
 - In-route and Emergency services
- Secondary: Measure importance of flight service
 - How often is flight service utilized
 - What additional services would increase the value of flight service

III. METHODOLOGY

A random sample of AOPA's 400,000 (U.S.) members was selected to participate in a telephone survey. A trained, professional and highly-experienced staff of telephone researchers was hired to facilitate the data collection. Each completed survey was entered directly into Quantum's proprietary, online analysis system. The respondent's identity was kept anonymous. The survey took 12 to 15 minutes to complete. No honorarium was offered.

The sample was cut into three distinct groups. Those groups and completed surveys from each were as follows:

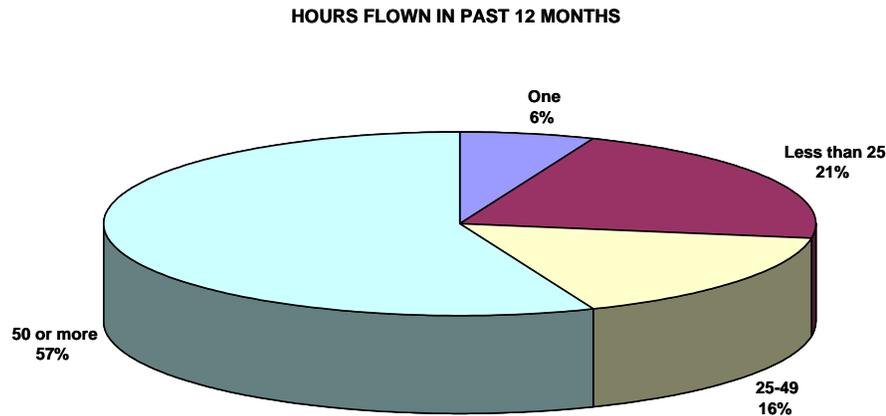
- Student Pilots: 199 responses
- VFR Pilots: 403 responses
- IFR Pilots: 397 responses



- Total (combined) findings are 95% representative of all pilots with a margin of error +/-3.1%
- The accuracy of detailed (for each group) findings is slightly less, but still fairly representative (margin of error <= +/- 6.9%)

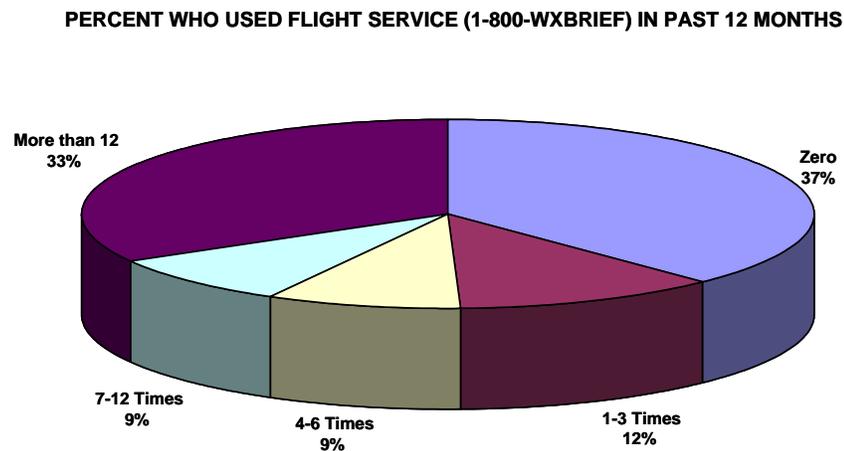
IV. EXECUTIVE SUMMARY

One can be confident that the information and conclusions presented in this document are representative of not only AOPA members, but *active* pilots in general. More than half of those who completed the survey have flown 50 or more hours in the past 12 months. Nearly 20% have flown 25 hours or more in that same time period.



Because the survey sample contained active pilots it is logical and accurate to conclude that this group is very familiar with flight service. These pilots use flight service on a frequent basis and have the required knowledge and experience to give intelligent and accurate answers to the questions presented in the survey.

Indeed, more than half, 51% have received a preflight briefing in the past 12 months. One can quickly conclude that today's flight service system is a valuable component to most pilot's pre-flight routine.



IV. EXECUTIVE SUMMARY (cont.)

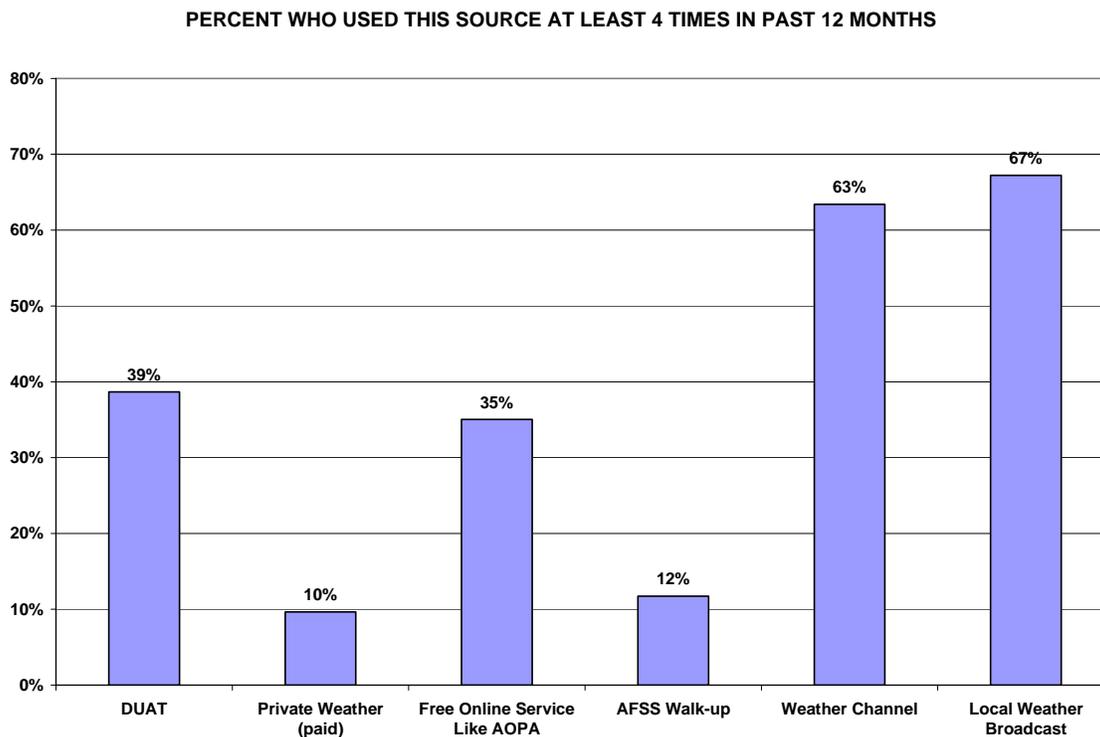
There are, of course, other valuable pre-flight tools. The surveyed measured the use of the following specific sources of information:

- DUATS
- Private Weather Vendor (for a fee)
- Free Online Weather Services such as AOPA
- AFSS walk-up briefing
- Weather Channel
- Local Weather Broadcast

Not surprising, of these other sources, the most widely used is the Weather Channel and Local Weather Broadcasts. This was true among all pilot groups. More than 60% of the respondents indicated they used these sources at least 4 times in the past 12 months.

These two sources are the easiest to access. Moreover, many pilots are trained to begin their pre-flight planning days in advance of departure by simply paying attention to local and regional forecasts.

The least used sources are paid weather services and AFSS walk-up. The following chart illustrates utilization by source.



IFR pilots, because they are most likely to encounter adverse weather conditions during flight, are the heaviest users of FSS and these other sources. That said, more than a third, 38.3%, of student pilots have used FSS at least 4 times in the past 12 months.

IV. EXECUTIVE SUMMARY (cont.)

To determine what makes up a “quality” flight service briefing, many attributes or services were studied. These attributes were selected by a team of experts at AOPA. It is believed, therefore, these attributes (implicitly) compose the items necessary for a briefing to be considered of “high value.”

The following summarizes what was learned from this section of the survey:

- For each pilot group, all aspects of pre-flight briefings are relatively important (average rating of 4.1 or higher based on a 5 point scale)
 - Greater clarity is found, however, when one examines the percentage that picked the top 2 scores on an attribute. This is a common analytical practice. In other words, what percent of the respondents thought an attribute was either “Important” or “Very Important.” Attributes with the highest top 2 scores are as follows.
 - Student Pilots
Most Important: The briefer delivers standard meteorological and aeronautical information services tailored to a student pilot.
 - VFR Pilots
Most Important: The briefer exhibits subject matter expertise (weather interpretation and factors that impact the safety of my flight)
 - IFR Pilots
Most Important: Emergency Services
- The same is true for satisfaction. An examination of the top-2 scores reveals the clearest picture. For example, emergency services are a very important flight service attribute—regardless of type of license held. IFR pilots are highly satisfied with this attribute; 90% gave it a favorable response but only 73% of VFR pilots give this attribute a favorable response.

Attributes with the highest top-2 satisfaction scores are as follows:

- Student Pilots
Most Important: The briefer delivers standard meteorological and aeronautical information services tailored to a student pilot.
- VFR Pilots
Most Important: The briefer exhibits subject matter expertise (weather interpretation and factors that impact the safety of my flight)
- IFR Pilots
Most Important: Flight planning services

As one can see, by pilot group, services that are the most important also get high satisfaction scores. With the exception of IFR pilots, the alignment is perfect. It should be noted that satisfaction with Emergency services (IFR Pilots) was 90% or the #2 most satisfying service for this group.

Clearly, today’s flight service system is delivering items that are highly important and a level of service that produces highly satisfied customers.

IV. EXECUTIVE SUMMARY (cont.)

The following table provides detailed top-2 scores for each attribute. The table is sorted on “importance,” descending, for all groups.

 Yellow represents the highest score  Orange represents the lowest score

	ALL GROUPS		STUDENTS		VFR		IFR	
	Importance	Satisfaction	Importance	Satisfaction	Importance	Satisfaction	Importance	Satisfaction
The briefer exhibits subject matter expertise (weather interpretation and factors that impact the safety of my flight)	94%	90%	98%	96%	93%	88%	93%	90%
Emergency Services	93%	82%	98%	87%	90%	73%	95%	90%
NOTAMS and advisories	92%	88%	90%	88%	91%	86%	93%	89%
NOTAMS for my route of flight	91%	86%	90%	88%	91%	85%	91%	87%
Temporary Flight Restriction and security related NOTAMS	91%	82%	89%	82%	90%	79%	84%	85%
The briefer has local geographic and meteorological knowledge regarding operations specific to my type of flight	89%	85%	87%	89%	90%	82%	90%	86%
The briefer delivers information tailored to my level of experience or knowledge in a timely manner	88%	83%	88%	82%	88%	84%	88%	82%
The briefer tailors meteorological and aeronautical information services as I request.	88%	86%	100%	100%	88%	86%	89%	86%
The briefer delivers standard meteorological and aeronautical information services tailored to a student pilot.	88%	84%	89%	85%	NA	NA	NA	NA
The briefer is patient and helpful if I file a flight plan and need help	88%	85%	87%	88%	88%	82%	89%	87%
All FAA standard metrological and aeronautical information services are provided as required by the FAA	88%	85%	85%	89%	90%	84%	88%	85%
In flight weather services	88%	84%	91%	84%	85%	84%	91%	84%
Airport Weather along my route of flight	87%	87%	92%	86%	88%	88%	84%	86%
Flight plan filing service	85%	87%	82%	89%	82%	82%	89%	92%
How important is in-flight flight service to you and what is your satisfaction with that service?	83%	84%	87%	90%	82%	82%	83%	85%
VFR Flight Following	81%	83%	85%	91%	83%	83%	77%	80%
The briefer gives me a complete briefing without me asking for additional information (I don't have to ask for NOTAMS or other advisories)	78%	76%	81%	83%	77%	75%	77%	75%
Pireps	78%	74%	78%	78%	75%	74%	82%	71%
Hazardous in-flight weather advisory service (HIWAS) (*Note: this is recorded meteorological and aeronautical information)	77%	78%	79%	79%	80%	83%	72%	74%
My call to flight service, via telephone or radio, is answered within 30 seconds and on first call	75%	82%	76%	90%	72%	85%	79%	79%
Personal Preflight conversation with a briefer	73%	82%	76%	89%	72%	78%	73%	85%
Transcribed weather enroute broadcasts (TWEBs) (*Note: this is recorded meteorological and aeronautical information)	57%	65%	65%	75%	60%	69%	61%	58%

IV. EXECUTIVE SUMMARY (cont.)

To make this information actionable, a gap analysis was conducted. While simple in its mathematical form, if one subtracts the satisfaction top-2 percentage from the importance top-2 percentage an “attention” score can be derived. For example, if an attribute is highly important but has a low satisfaction score, then resources should be applied to that area—your customer believes it is important so improving satisfaction with that attribute will generate the best return on investment.

- For Student Pilots, the areas of attention are highlighted in the chart below.

	STUDENTS		
	Importance	Satisfaction	Attention
Emergency Services	98%	87%	11%
Temporary Flight Restriction and security related NOTAMS	89%	82%	7%
In flight weather services	91%	84%	7%
The briefer delivers information tailored to my level of experience or knowledge in a timely manner	88%	82%	6%
Airport Weather along my route of flight	92%	86%	6%
The briefer delivers standard meteorological and aeronautical information services tailored to a student pilot.	89%	85%	4%
The briefer exhibits subject matter expertise (weather interpretation and factors that impact the safety of my flight)	98%	96%	2%
NOTAMS and advisories	90%	88%	2%
NOTAMS for my route of flight	90%	88%	2%
The briefer tailors meteorological and aeronautical information services as I request.	100%	100%	0%
Pireps	78%	78%	0%
Hazardous in-flight weather advisory service (HIWAS) (*Note: this is recorded meteorological and aeronautical information)	79%	79%	0%
The briefer is patient and helpful if I file a flight plan and need help	87%	88%	-1%
The briefer gives me a complete briefing without me asking for additional information (I don't have to ask for NOTAMS or other advisories)	81%	83%	-2%
The briefer has local geographic and meteorological knowledge regarding operations specific to my type of flight	87%	89%	-2%
How important is in-flight flight service to you and what is your satisfaction with that service?	87%	90%	-3%
All FAA standard metrological and aeronautical information services are provided as required by the FAA	85%	89%	-4%
VFR Flight Following	85%	91%	-6%
Flight plan filing service	82%	89%	-7%
Transcribed weather enroute broadcasts (TWEBs) (*Note: this is recorded meteorological and aeronautical information)	65%	75%	-10%
Personal Preflight conversation with a briefer	76%	89%	-13%
My call to flight service, via telephone or radio, is answered within 30 seconds and on first call	76%	90%	-14%

For student pilots, a “quality” flight briefing must contain these items—each has an importance top-2 score of 90% or higher.

It is unlikely that many student pilots have utilized Emergency Services. Because of that, one might conclude the low satisfaction score comes from a lack of understanding rather than experienced use. The same is perhaps true about TFRs and NOTAMS.

And with regard to the other highlighted attributes, the low satisfaction scores may be related to lack of experience. In other words, if the student does not know how to ask for information (for airport weather along my route of flight), then information given by the briefer may not be satisfactory.

This conclusion is supported by the relatively low score of 88% in the area of: “The briefer is patient and helpful if I file a flight plan and need help.” It appears an opportunity exists for briefers to be more appreciative of the student's situation by slowing down, being clear and using terminology that is easily understood.

IV. EXECUTIVE SUMMARY (cont.)

- For VFR Pilots, the areas of attention are highlighted in the chart below.

	VFR		
	Importance	Satisfaction	Attention
Emergency Services	90%	73%	17%
Temporary Flight Restriction and security related NOTAMS	90%	79%	11%
The briefer has local geographic and meteorological knowledge regarding operations specific to my type of flight	90%	82%	8%
NOTAMS for my route of flight	91%	85%	6%
The briefer is patient and helpful if I file a flight plan and need help	88%	82%	6%
All FAA standard metrological and aeronautical information services are provided as required by the FAA	90%	84%	6%
The briefer exhibits subject matter expertise (weather interpretation and factors that impact the safety of my flight)	93%	88%	5%
NOTAMS and advisories	91%	86%	5%
The briefer delivers information tailored to my level of experience or knowledge in a timely manner	88%	84%	4%
The briefer tailors meteorological and aeronautical information services as I request.	88%	86%	2%
The briefer gives me a complete briefing without me asking for additional information (I don't have to ask for NOTAMS or other advisories)	77%	75%	2%
In flight weather services	85%	84%	1%
Pireps	75%	74%	1%
Airport Weather along my route of flight	88%	88%	0%
Flight plan filing service	82%	82%	0%
How important is in-flight flight service to you and what is your satisfaction with that service?	82%	82%	0%
VFR Flight Following	83%	83%	0%
Hazardous in-flight weather advisory service (HIWAS) (*Note: this is recorded meteorological and aeronautical information)	80%	83%	-3%
Personal Preflight conversation with a briefer	72%	78%	-6%
Transcribed weather enroute broadcasts (TWEBs) (*Note: this is recorded meteorological and aeronautical information)	60%	69%	-9%
My call to flight service, via telephone or radio, is answered within 30 seconds and on first call	72%	85%	-13%

For VFR pilots, a “quality” flight briefing must contain these items—each has an importance top-2 score of 90% or higher.

Again, like Students, it is unlikely that a majority of VFR pilots use Emergency services. It is the author’s opinion that the low satisfaction score in this area results from insufficient training on when and how to use Emergency services.

Clearly, though, the highlighted areas plus the attributes with a top-2 importance score greater than 90% all lead toward “safety of flight” issues. In other words, VFR pilots put the most emphasis on items that will help them avoid restricted airspace, avoid bad weather and advice from briefers who are familiar with the local area.

Like student pilots, VFR pilots appreciate a briefer that is patient and delivers information in a way that is easily understood. To that end, VFR pilots are most satisfied when a briefer takes time to understand the situation and then “coaches” or reinforces the pilot’s decision regarding route of flight and weather interpretation.

Somewhat surprising is the low importance score on “in-flight weather services.” This may indicate a low utilization of flight following services.

Also, as seen with student pilots, VFR pilots do not seem overly concerned about reaching a briefer within 30 seconds or on the first call. This may relate to a perception that briefers are busy, handling a lot of requests and doing their best. Moreover, VFR pilots likely take plenty of time to prepare for a flight and therefore are not in a hurry.

IV. EXECUTIVE SUMMARY (cont.)

- For IFR Pilots, the areas of attention are highlighted in the chart below.

	IFR		
	Importance	Satisfaction	Attention
Pireps	82%	71%	11%
In flight weather services	91%	84%	7%
The briefer delivers information tailored to my level of experience or knowledge in a timely manner	88%	82%	6%
Emergency Services	95%	90%	5%
NOTAMS and advisories	93%	89%	4%
NOTAMS for my route of flight	91%	87%	4%
The briefer has local geographic and meteorological knowledge regarding operations specific to my type of flight	90%	86%	4%
The briefer exhibits subject matter expertise (weather interpretation and factors that impact the safety of my flight)	93%	90%	3%
The briefer tailors meteorological and aeronautical information services as I request.	89%	86%	3%
All FAA standard metrological and aeronautical information services are provided as required by the FAA	88%	85%	3%
Transcribed weather enroute broadcasts (TWEBs) (*Note: this is recorded meteorological and aeronautical information)	61%	58%	3%
The briefer is patient and helpful if I file a flight plan and need help	89%	87%	2%
The briefer gives me a complete briefing without me asking for additional information (I don't have to ask for NOTAMS or other advisories)	77%	75%	2%
My call to flight service, via telephone or radio, is answered within 30 seconds and on first call	79%	79%	0%
Temporary Flight Restriction and security related NOTAMS	84%	85%	-1%
Airport Weather along my route of flight	84%	86%	-2%
How important is in-flight flight service to you and what is your satisfaction with that service?	83%	85%	-2%
Hazardous in-flight weather advisory service (HIWAS) (*Note: this is recorded meteorological and aeronautical information)	72%	74%	-2%
Flight plan filing service	89%	92%	-3%
VFR Flight Following	77%	80%	-3%
Personal Preflight conversation with a briefer	73%	85%	-12%

For IFR pilots, a “quality” flight briefing must contain these items—each has an importance top-2 score of 90% or higher.

As one can see, the more experienced pilots have different requirements when considering the items needed for a “quality” flight service briefing. While IFR pilots, like VFR, are concerned about safety-of-flight information, their specific areas of interest are different from VFR pilots.

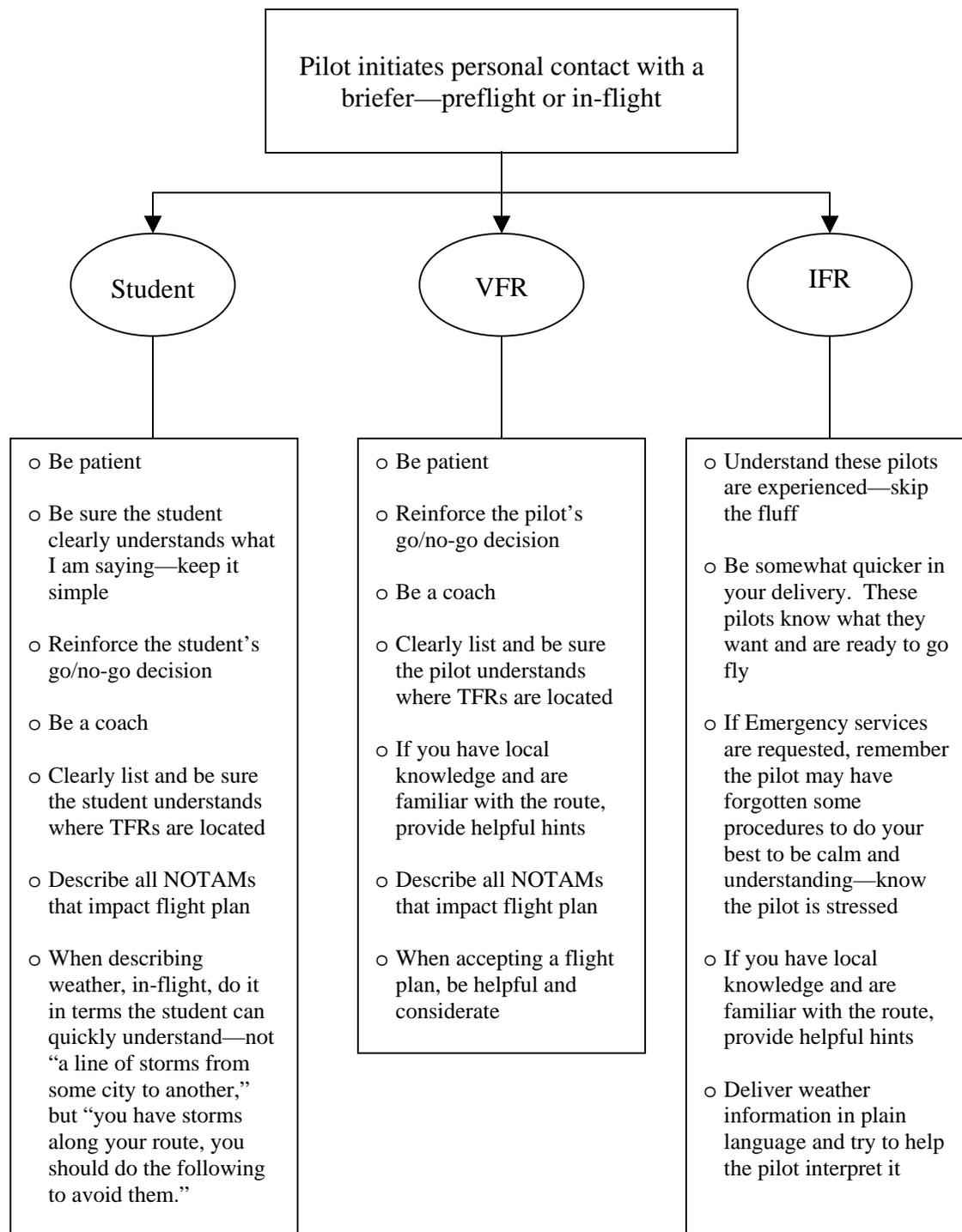
Emergency services remain the common denominator for all pilot groups. And while “PIREPS” has the highest attention score, it is relatively unimportant to IFR pilots. Because of that, any action plan to address satisfaction for IFR pilots should be focused on in-flight weather services and delivering a briefing appropriate to an IFR pilot’s skill level.

The low satisfaction rating for “The briefer delivers information tailored to my level of experience or knowledge in a timely manner,” may be symptomatic of a policy that encourages briefers to be more patient. Without a doubt, there are more VFR pilots than IFR, but it appears if a decision tree was used by flight service, satisfaction could be improved for IFR pilots.

The next page illustrates how such a decision tree might be used.

IV. EXECUTIVE SUMMARY (cont.)

- If Flight Service adopted a simple decision tree approach to best tailor a preflight or in-flight briefing, they would use something like this:

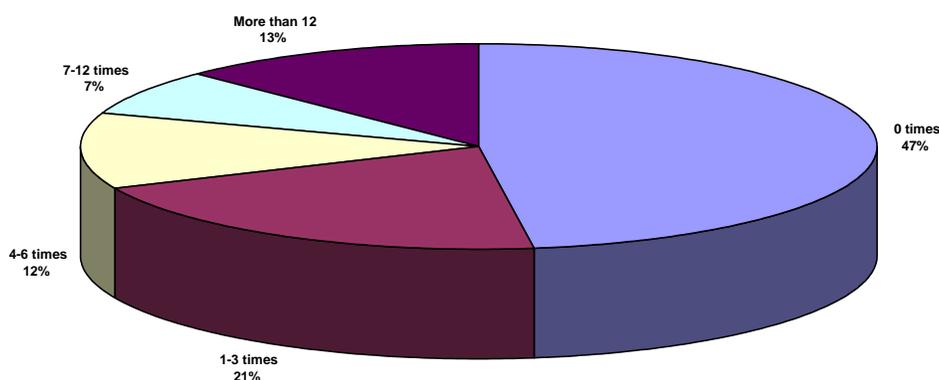


IV. EXECUTIVE SUMMARY (cont.)

o In-flight Flight Service

This service was used by more than half, 53%, of the sample during the past 12 months. As the chart below illustrates, nearly a third (32%) have made contact with in-flight Flight Service at least 4 times in the past 12 months.

How many times in past 12 months have you used or contacted in-flight Flight Service?



IFR pilots are the heaviest users of this service—slightly more than 20% of them have used in-flight Flight Service more than 7 times in the past 12 months.

That said, this particular service is most important to Student pilots. As the table below shows, 87% of Students think it is very important or important.

Students are most satisfied with it too—90% are either very satisfied or satisfied.

And every pilot group gave a satisfaction score equal to or higher than the importance score—meaning Flight Service would not need to put resources behind improving this service.

	STUDENTS		VFR		IFR	
	Importance	Satisfaction	Importance	Satisfaction	Importance	Satisfaction
How important is in-flight flight service to you and what is your satisfaction with that service?	87%	90%	82%	82%	83%	85%

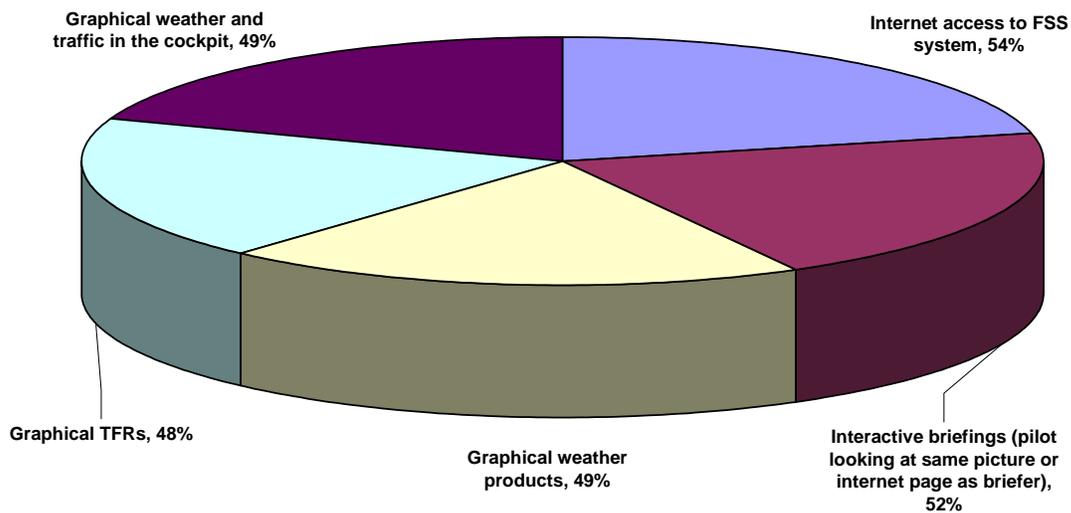
IV. EXECUTIVE SUMMARY (cont.)

Beyond measuring importance and satisfaction with existing Flight Service (services), AOPA also felt it important to get input on what additional services might be useful. To that end, respondents were asked “What new FSS services would you find valuable?”

There was little difference between pilot groups as to what item was most appealing. Internet access to FSS was the most “wished-for” new service with 54% of respondents giving it a favorable response.

But with no item receiving a large majority vote, it is difficult to say if Flight Service should invest in any of these items.

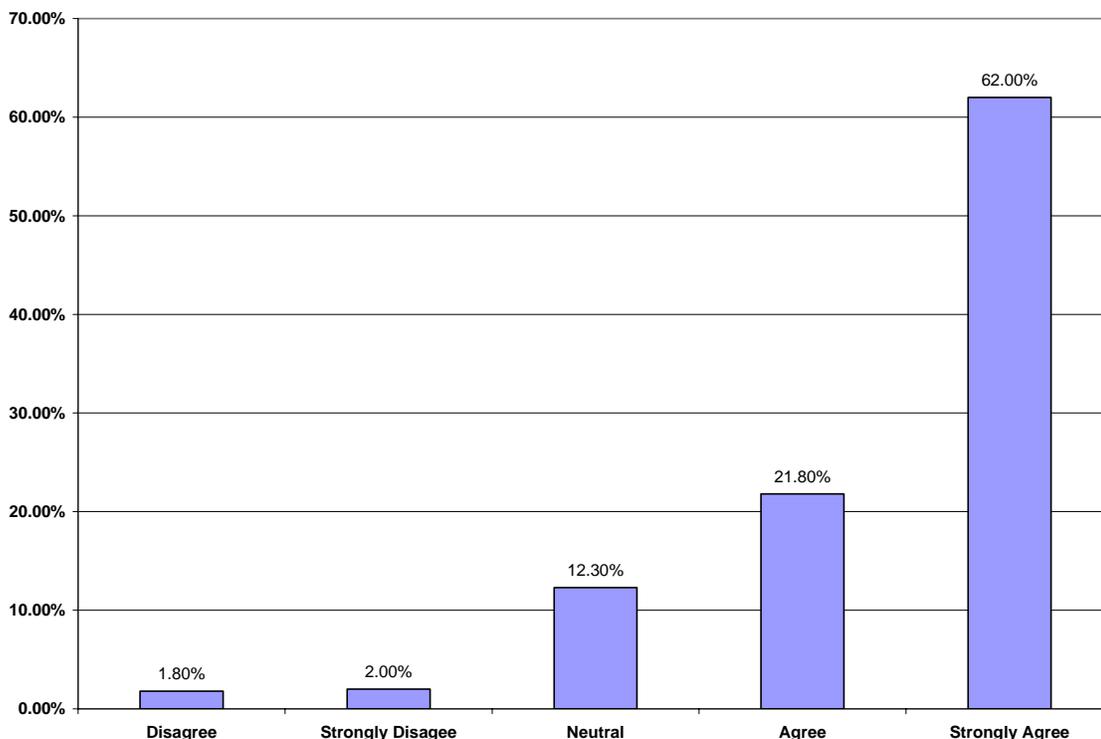
The following chart illustrates answers to that question:



IV. EXECUTIVE SUMMARY (cont.)

The last question of the survey dealt simply with **“Whether FSS is outsourced or not, AOPA is adamant that the service must be paid for by the government. Rank how strongly you agree or disagree with that position.”**

As the chart below illustrates, more than 80% of respondents agree with AOPA’s position.



This enforces the idea that Aviation weather services are critical to public safety and should be provided by the government without fees. Further, the core function of air traffic control - as in folks who actually control traffic - is inherently governmental.

This is not to say, however, that FSS could (with caveats) be contracted out without compromising safety...resulting in lower costs. The VFR Contract Tower program and DUAT are good examples of lower cost services for general aviation.

This survey did not evaluate that specific proposition.

IV. EXECUTIVE SUMMARY (cont.)

- AOPA's position on outsourcing Flight Service:

Aviation weather services are critical to public safety and should be provided by the government without fees. However, AOPA recognizes that the current FSS system is in serious jeopardy and that there may be better ways of doing business. AOPA is working to ensure that the A76 study looks at alternatives for providing modernized flight services to pilots with the government still retaining the ultimate responsibility for providing the service. Clearly, it is paramount that the FAA study recognizes that the provision of aviation weather services is a government function and these services should not be fee based or privatized. AOPA would actively oppose any measures that would remove responsibility for flight services from the federal government. The use of outside resources for FSS functions is not unprecedented. In the 1980s, FAA implemented the DUAT service, with private contractors providing aviation weather services directly to pilots.

AOPA continues to work closely with FAA and union leadership representing the hard-working corps of FSS specialists. The association is playing a key role in identifying general aviation requirements related to aviation weather services, notams, and other safety functions performed by FSSs. AOPA has officially requested that FAA allow the Association to participate in the "performance work statement" that identifies and describes the functions and requirements of FSSs. AOPA is committed to seeing that all pilots benefit from this effort to identify the needs for a more modern FSS system.