

Questionnaire Feedback

Elisa Ingebretson

Research Scientist, Battelle



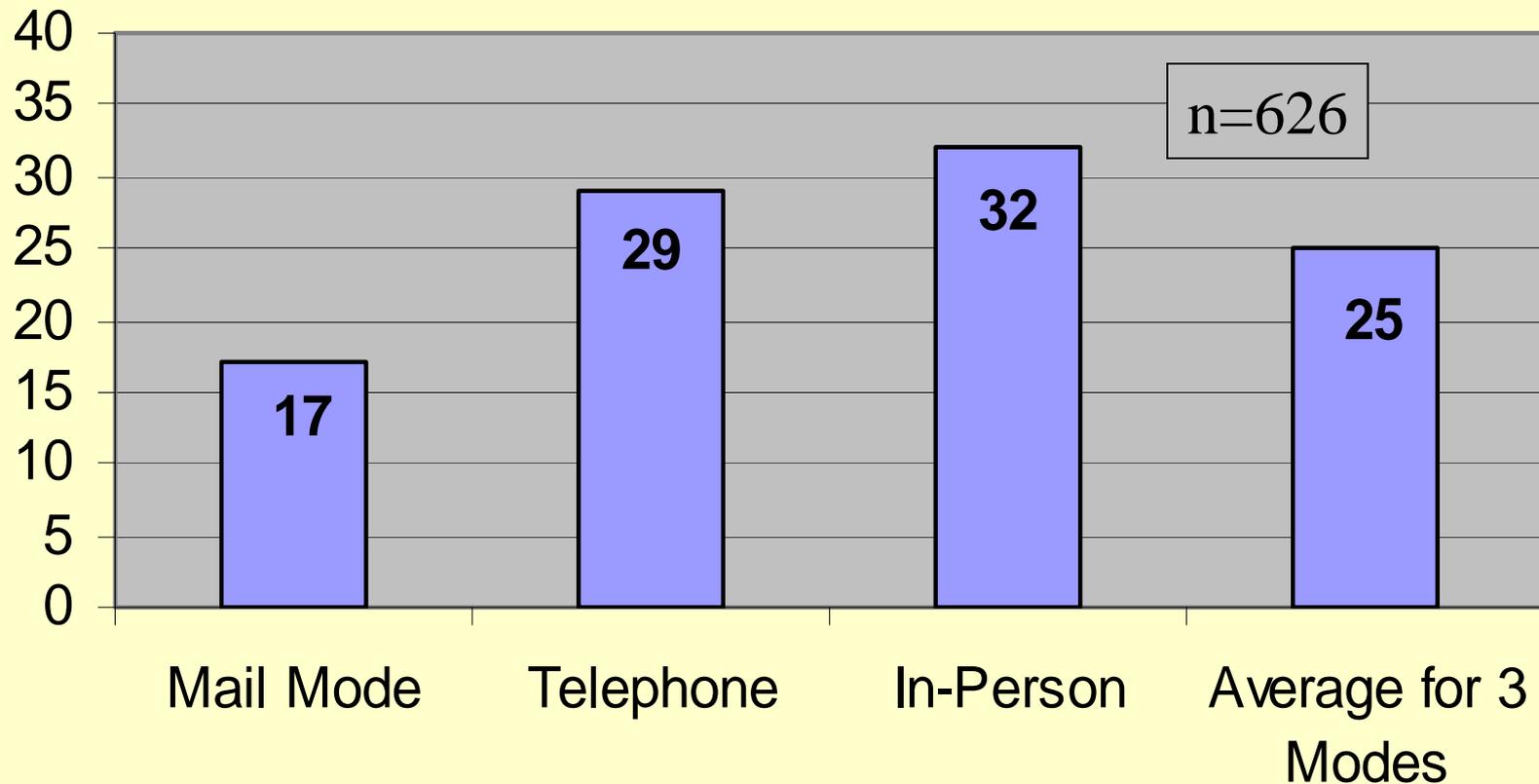
Section D: Questionnaire Feedback

How many minutes did it take you to complete the questionnaire up to this point?	MINS
How confident are you that you reported accurately all the significant safety-related events that you experienced for the time period specified in the survey? <i>(Please check the appropriate box.)</i>	<input type="checkbox"/> not confident at all <input type="checkbox"/> moderately confident <input type="checkbox"/> rather confident <input type="checkbox"/> very confident <input type="checkbox"/> extremely confident
In your opinion, were the questions asked in Section B of this survey relevant to tracking long-term trends in aviation safety?	Yes No
Did you find any of the questions in this questionnaire to be confusing, poorly worded, or ambiguous? <i>(Please circle yes or no.)</i>	Yes No
SKIP TO D5.	
If YES, please write each question number (e.g., SD1) below and describe any suggestions you might have for improving the question. <i>(Continue on the back if necessary.)</i>	
Question Number	Suggestion for improving the question:
_____	_____



Questionnaire Completion Time

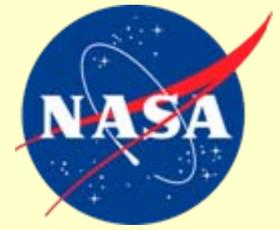
- **D1. How many minutes did it take to complete the questionnaire?**



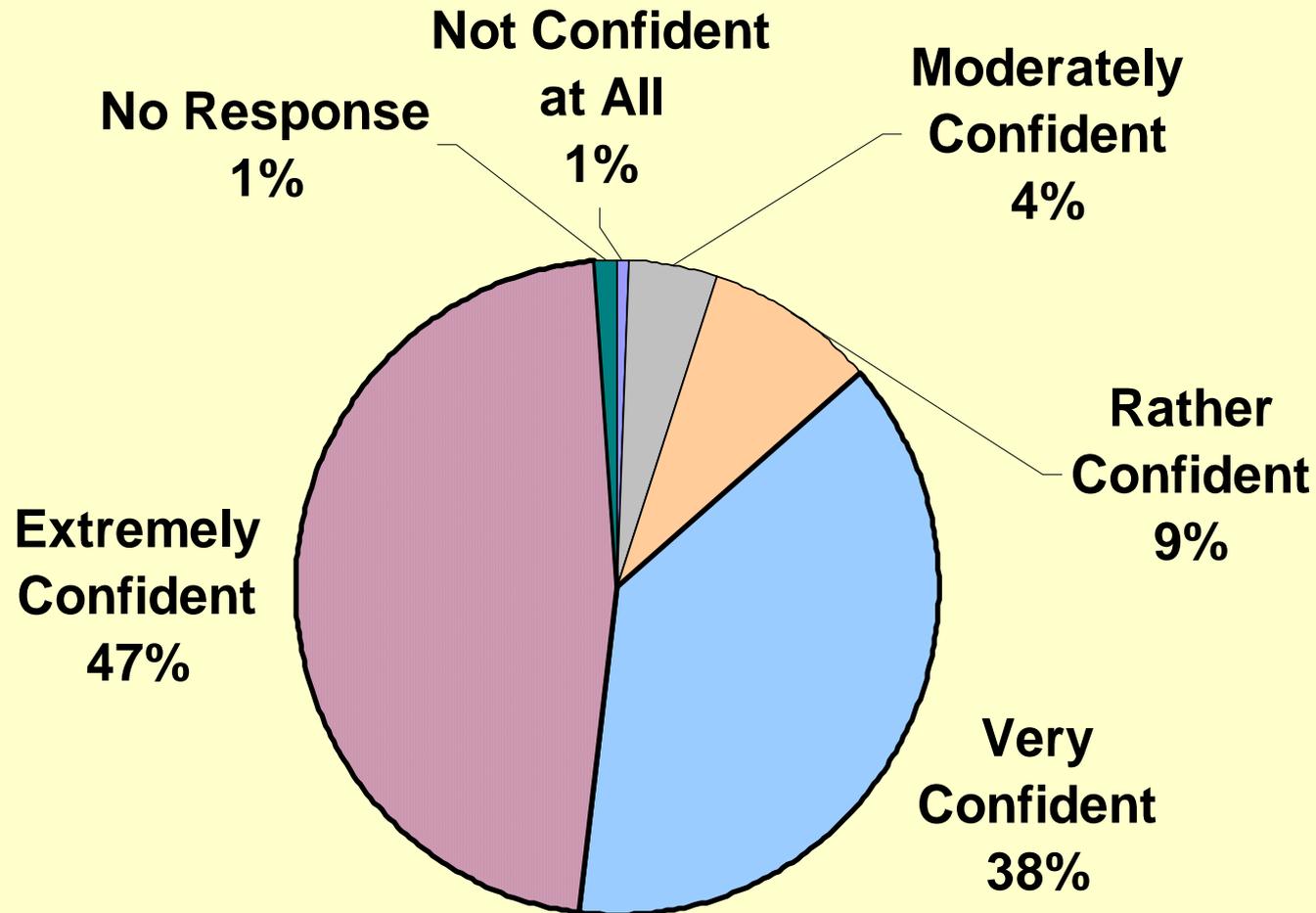


Confidence Regarding Accuracy

- **D2. How confident are you that you reported accurately all the significant safety-related events that you experienced for the time period specified in the survey?**



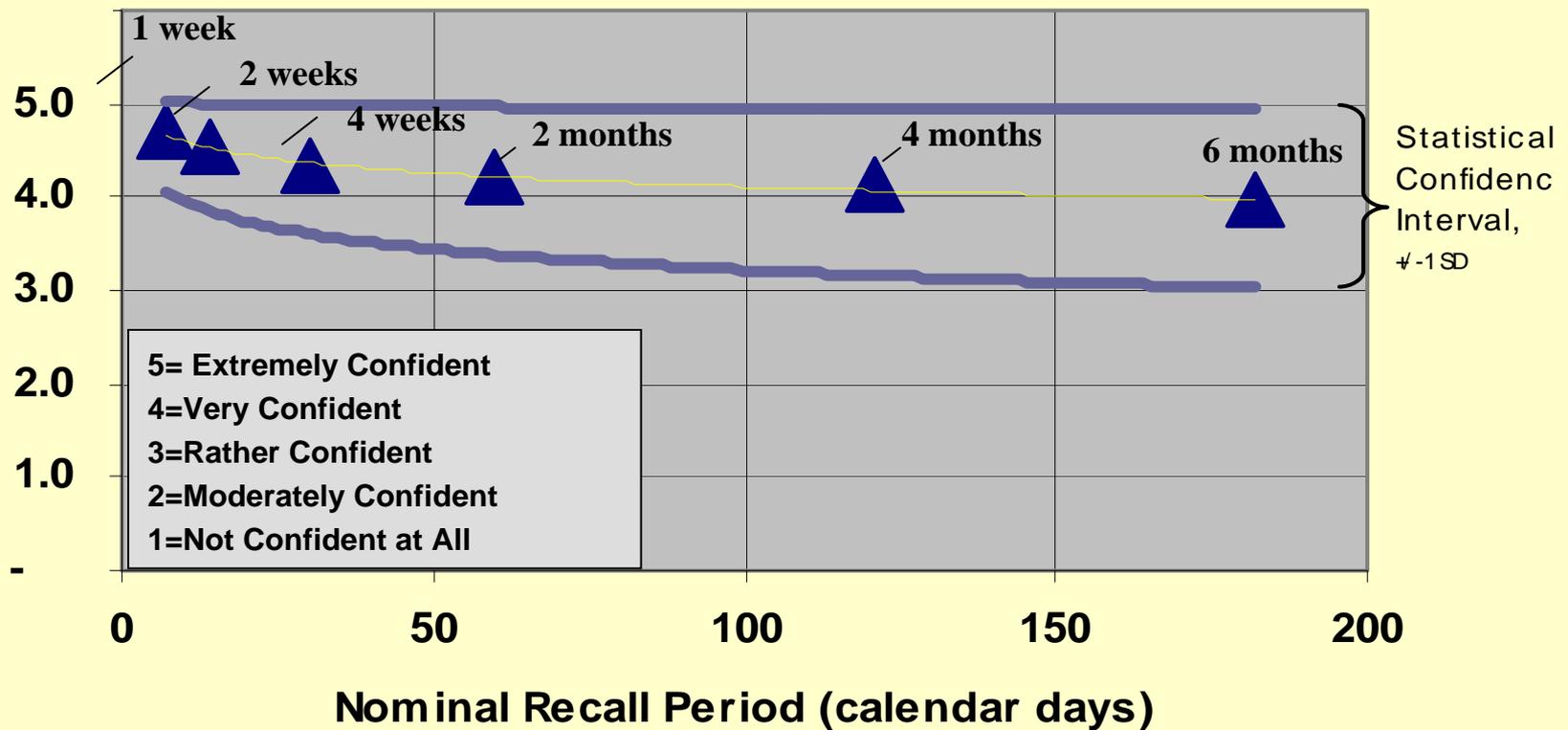
Confidence Regarding Accuracy (cont'd)





Confidence Regarding Accuracy vs. Recall Period (cont'd)

Confidence Level

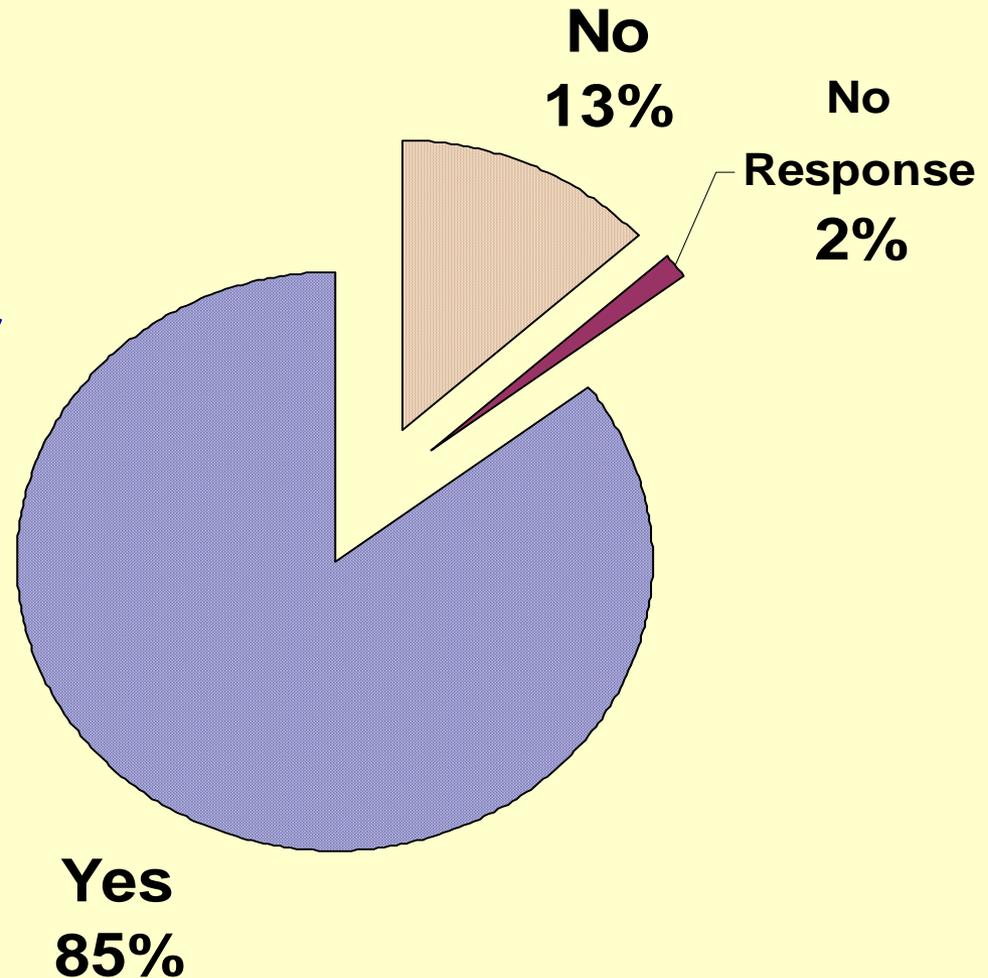


Note: The trendline and the confidence bounds were derived by regression using an exponential form. The lower confidence bound is 1 standard deviation. The upper bound is 1 standard deviation truncated at the maximum possible value of 5.



Relevancy

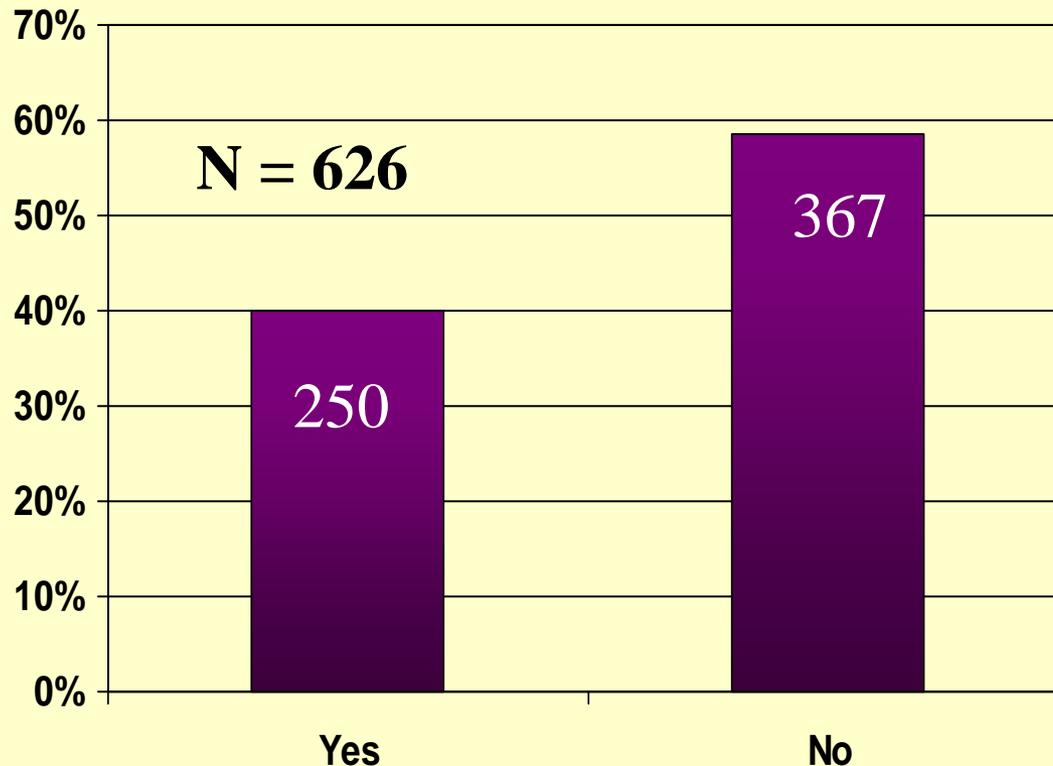
- **D3. In your opinion, were the questions asked in Section B of this survey relevant to tracking long-term trends in aviation safety?**





Refining the Questions

D4. Did you find any of the questions to be confusing, poorly worded, or ambiguous?



* 9 Pilots did not answer this question



Confusing, Poorly Worded or Ambiguous Questions

- The 626 respondents were each asked 135 questions which yielded roughly 80,000 responses.
- Just 399 of these (0.5%) elicited comments.
- **Topics of concern include* :**
 - MEL questions (Section C) = 27%
 - Equipment questions (ER) = 26%
 - ATC questions (AT) = 10%
 - In close approaches (Section C) = 8%
 - Spatial deviations (SD) = 7%
 - Other = 22%

* Percentages based on 399 reports of confusing questions.

**Qualitative Feedback on
Section B
Standard Safety-Related Events**



SD6.

Route / Vector Deviation

QUESTION

During the last [recall period], how many times did an aircraft in which you were a crewmember deviate from a route or vector heading for one minute or more?

COMMENTS

- This occurs all the time when weather is encountered
- Add "not because of weather"
- Or, add "an assigned" before "route or vector"



WE5. Windshear / Microburst

QUESTION

During the last [recall period], how many times did an aircraft in which you were a crewmember encounter windshear or a microburst condition that resulted in an airspeed deviation of 15 knots or greater or required a windshear avoidance maneuver?

COMMENTS

- Airspeed deviations should be treated separately from situations requiring a windshear avoidance maneuver.
- Add a question relating to mountain waves.



FC1.

Visual Mistake

QUESTION

During the last [recall period], how many times did an aircraft in which you were a crewmember visually mistake one aircraft for another?

COMMENTS

- Add ...in the ground and in the air
- Too broad, unclear
- Be more specific with an example such as "reporting the wrong traffic in sight"



FC4. Sterile Cockpit

QUESTION

During the last [recall period], how many times did an aircraft in which you were a crewmember experience a violation of the sterile cockpit rule?

COMMENTS

- Add "which led to a deviation"
- Pilots noted that airlines often have added restrictions to this ruling



ER1-ER5. Equipment Related Events

QUESTION

During the last [recall period], how many times did an aircraft in which you were a crewmember how many times did an aircraft in which you were a crewmember experience a significant malfunction or failure of any of the following aircraft systems and/or components?

COMMENTS

- Pilots noted the list was overly general and should be refined
- Add "on the ground", "in the air", and/or "MEL'd"



AT7.

Frequency Congestion

QUESTION

During the last [recall period], how many times did an aircraft in which you were a crewmember find that you were unable to communicate with ATC because of frequency congestion?

COMMENTS

- Add "on the ground" and/or "in the air"



Gaps in Safety Event Questions Identified

- Crew Rest / Fatigue and errors related to fatigue
- Crew Interaction / CRM
- Crew Training
- Cockpit Automation
- Flight Dispatch Issues
- Airport Security
- ATC Readback
- Night Flying

Qualitative Feedback on Section C - Topical Sections



Section C – Topical Sections

■ **Minimum Equipment Lists**

- Over 60 respondents gave suggestions
- In general, the respondents felt these questions were too detailed

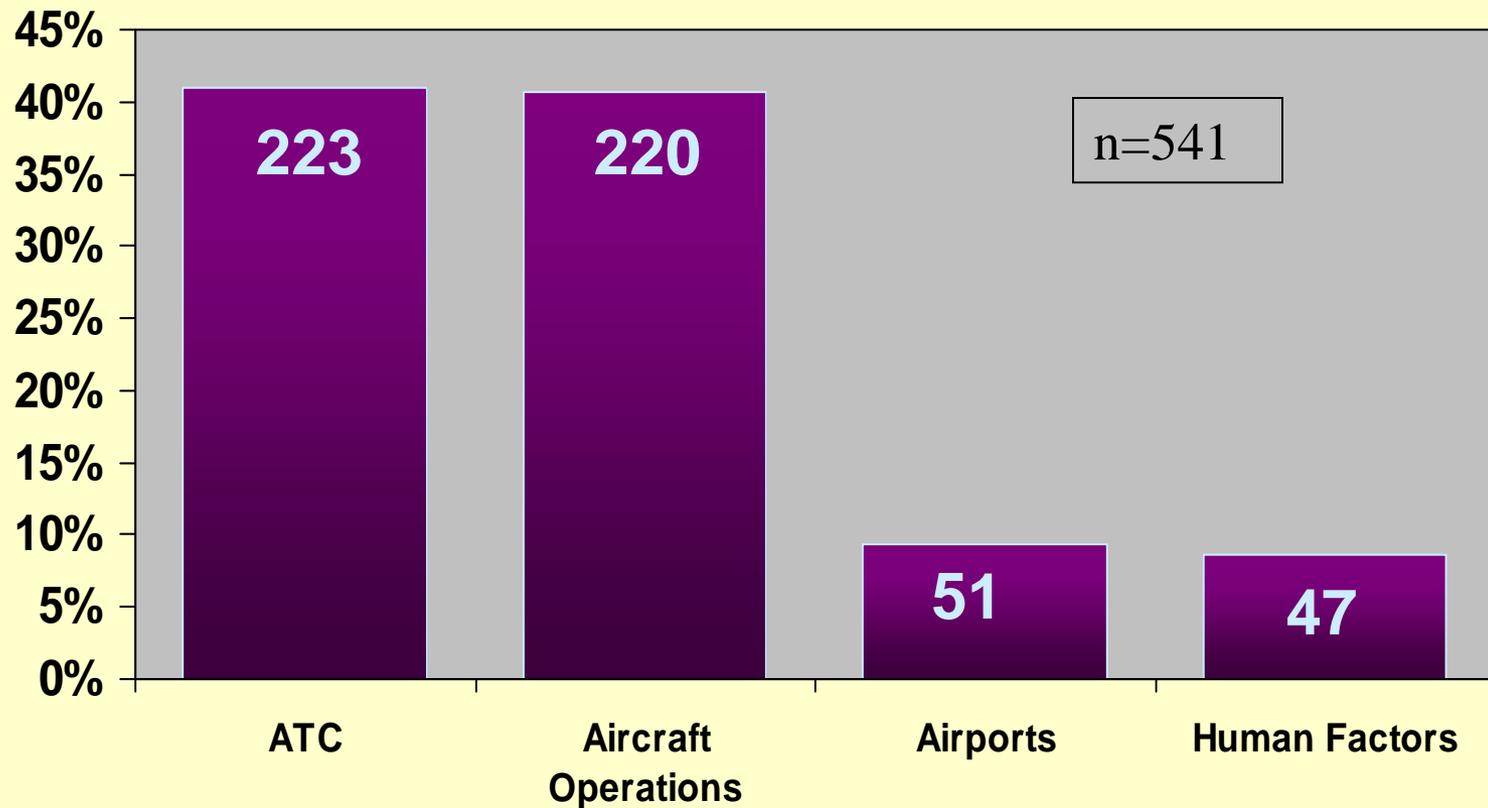
■ **In-Close Approach Changes**

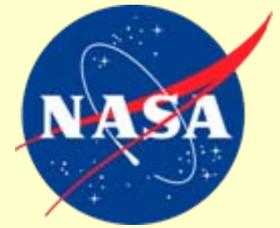
- Over 20 respondents gave suggestions
- Many related to providing a definition of “in-close”

Suggestions for Future Topical Sections



D5. Distribution of Suggestions for Future Topical Sections





Suggestions for Future Topical Sections

■ ATC

- ATC Communication
- ATC Communications-phraseology; Readback / Hearback
- ATC Delays during reduced weather
- ATC Frequency Congestion

■ Aircraft Operations

- Checklist Usage
- Cockpit Automation
- LAHSO
- Portable Electronic Devices / Interference
- TCAS



Suggestions for Future Topical Sections (cont'd)

■ Human Factors

- Crew Fatigue
- Crew Pairing
- Crew Resource Management / Interaction
- Crew Rest - Cargo
- Crew Rest - International Flights
- Crew Training
- Flight Duty Time Limitations

■ Airport

- Airport Congestion
- Airport Security

Other Comments or Suggestions



Summary of Other Comments

QUESTION D6

- Do you have any other comments or suggestions about this survey?

COMMENTS

- 246 Respondents gave comments to D6
- Less than 5 negative general comments
- Majority of Other Comments:
 - Recall Periods
 - Feedback on improving specific questions / questionnaire overall
- 4 out of 626 respondents said the survey was too long



Highlights of Positive Comments

- *“I would just like to thank you for your efforts to improve aviation safety. Keep up the good work!”*
- *“I found this survey interesting / thought-provoking/ and to a limited extent/ educational. I'd like to see the compiled results and analysis.”*
- *“I have always found NASA to be one of the most important agencies in promoting safety in this business.”*
- *“I think it's good to do the surveys-I think that people are more willing to speak on a confidential basis.”*



Highlights of Positive Comments (cont'd)

- *“I feel this is an excellent idea and look forward to participating in more surveys in the future.”*
- *“This survey is a great idea and every pilot should receive a survey quarterly to keep track of events and you'd get a full picture of airline operations.”*
- *“I hope that the results of the survey can get to the decision makers to create improvements.”*
- *“Keep it on. You are asking the right kind of questions. Gathering this kind of info is more art than science.”*

Discussion



Discussion Questions

- **What are your opinions about the methodological approach that we intend to follow?**
- **Panel design discussions**
- **What would be valuable issues for future topical sections?**
- **How can your organization help make NAOMS a success?**
- **What would be a workable approach for obtaining aviation community input into the NAOMS survey process?**
 - Policy level
 - Subject of topical sections
 - Questionnaire consultation, validation and review

Summary and Closing Comments

Linda Connell
NASA Project Manager, Level III