NAOMS SURVEY RESPONSE REDACTION SUMMARY

February 6, 2008

This document is a summary of the redaction strategies and steps that apply to the NAOMS information for the December 31, 2007 release and the January 14 and February 6, 2008 updates. Tables 4 through 10were added as part of the February 4 update.

Part A contains nine redaction explanation tables.

Table 1 lists the general redaction strategies applied, along with rationale for their use and the potential for information loss.

Table 2 lists the most common redaction steps applied to various general fields of the air carrier and general aviation survey responses respectively. It explains the rationale for using the steps, and lists the effects if any on information loss to the reviewer, if any.

Tables 3 and 4 list the specific redaction steps (if any) taken for every question in the air carrier and general aviation surveys respectively. The rows in these tables correspond to individual questions in the surveys, and thus to the response columns in the Redacted Air Carrier and General Aviation Response Sections. The General Aviation tables are for the fixed wing respondents only. The Rotorcraft responses will be posted in a future update.

Table 5 shows the unredacted responses to air carrier safety events that contained a "unique high" value.

Tables 6 through 8 show unredacted responses by calendar year to "rare event" questions in Sections B, C (ICAC) and C (JIMDAT) of the air carrier surveys.

Tables 9 and 10 show the unredacted responses by calendar year to "rare event" questions in Sections B and C of the general aviation surveys.

Part B lists the categories used to generalize the information in applicable fields in the air carrier survey.

Part C lists the categories used to generalize the information in applicable fields in the general aviation survey.

Part A Redaction Tables

Table 1: NAOMS Redaction Strategies

#	Description of Strategy	Purpose	Information Loss
1	Reordering of rows randomly within the selected time period	Eliminate any potential timing information implicit in original ordering	None
2	Generalization of type identifiers (e.g., aircraft make-model-series) to generic type characterizations, or rounding of numeric data. Specific information that may be used to identify a respondent is replaced by broader categories that still retain respondent information.	Protects anonymity by taking very specific respondent information and making it more general.	Some precise information is lost but all general information remains.
3	Disaggregation of columns (column-wise separation of responses into multiple tables with no cross-links with other columns)	Protects anonymity by separating the entire column containing specific information that may be combined with other information to identify a respondent.	All information in the column is retained, but cannot be linked directly with other parent survey responses.

4	Deletion of entire data column or row.	Deletion of a column may be used to eliminate information that when combined with other information poses too high a threat to anonymity. Deletion of a row is used to eliminate survey responses that posed technical problems for the redaction team, or for which the current set of redaction strategies was considered inadequate. The decision to delete these rows (survey responses) will be revisited at a later date for possible follow on release.	Deletion of a column eliminates that particular survey response across all surveys. Deletion of an entire row results in loss of an entire survey response
5	Editing of selected text entries at the individual record level	Protects anonymity by eliminating direct identifiers and generalizing implicit identifiers.	Explicit identification of people, aircraft make- model, air carriers, airports, employers, etc. Generalization is then used to retain information at higher (less specific) level.

Table 2: Common Redaction Steps Applied to the NAOMS Response Data Fields

Data Field	Redaction Step
Recall Period	Delete recall period. Recall periods in the first year of the surveys (2001) varied from 30 to 60 to 90 days. Starting in 2002 all recall periods were 60 days.
Recall Date	Delete the recall month and day, including the recall season and pre- and post-9/11, but maintain the recall year
Free Text	Manually edit each field by combination of generalization, deletion, and Disaggregation.
	Generalize all explicit and high certainty implicit references to airports and aircraft make-model
	Delete all direct personal, operator, and air carrier names
	Generalize aircraft components, and use ATA codes for subsystems
	After completion of the above steps, separate the general comments sections (D3A/D5 and GD3A/GD5) from the surveys, randomize their order and release them separately from the parent surveys
Flight Activity	Air Carrier Only: For flight hours less than 50, replace with "less than or equal to 50;" and for flight hours more than 170, replace with "more than 170"
	General Aviation Only: Round the flight hours to 5 hour "bins"; for flight hours less than 80, round to the nearest 5; for more than 80, label as "at least 80"; Note: General Aviation pilots fly far fewer hours in a typical recall period than do Air Carrier pilots. Therefore the smaller numerical groupings (5 hours) were more appropriate for this pilot constituency compared with Air Carrier (40 hours).
	Disaggregate number of legs in recall period, but post recall period legs and flight hours (together) in Partial Raw Air Carrier Survey Responses.
	Generalize all other numeric flight activity (including career flight hours)
Airport Data	Generalize airport data per standard Federal Aviation Regulations classifications
Aircraft Make-Model	Generalize make-model to aircraft class category in Survey Responses, and disaggregate raw make-model with percentage flown in Partial Raw Survey Responses.
Air Carrier Fleet Size	Delete air carrier fleet size field. This step was done because when combined with certain other fields, it could reveal an actual air carrier.

Data Field	Redaction Step
All	For remaining fields maintained with their parent survey, randomize the order within the recall year. Note: each survey response is assigned a single random ID number.
Rare Events in Numeric Fields	With so many responses in the survey, there is a concern that a rare response combined with other responses and/or exogenous data sources could pose a threat to anonymity. So, a "rare event" strategy was developed. Rare events in numeric fields are defined as events occurring in less than 0.1 percent of the surveys within the set. When this happens, the redaction step is to delete the entries in that column, yet show the actual summation of the field at the bottom of each column. Example: a column has 25,100 survey rows, and in that column there are only 20 entries, all '1's (<0. 1% of surveys recorded that event). The redaction step makes all the '1's zeros, so that these "rare events" cannot be linked to their parent surveys, but keeps the total (20) at the bottom of the table so the reader can see how many times the surveys produced this result. Rare events are disaggregated and summarized in tables 6 through 10 by showing the reported numeric responses to "rare event" questions by calendar year.
Unique high numbers in numeric fields	Another threat to anonymity was the occasional single high value for a numeric response. The redaction step replaces a high unique entry in a numeric field with the next closest numeric value in the field. Example: a column has a hundred entries: eighty 1s, nineteen 2s, and a single 5. The 5 would be called a high unique entry, and would be rounded down to 2. So, for this column, the 2s should be considered as "2 or more". The column total would be misleading, as it would not take the "hidden" 5 into account. Since the actual totals for air carrier safety events could be of interest to the reader, a summary of "high unique" steps for air carrier safety events, including the actual high values (disaggregated from their parent surveys), and actual totals, is listed in table 5. Ten questions from section C that are not "safety events" were also redacted per the "high unique" step, but are not included in Table 5.
Rare events in free text fields	Rare events in free text fields are defined as events considered rare to NASA aviation experts. For this case, the redaction step is to replace rare event descriptions with the term "other", and provide a separate sheet listing all events (disaggregated) captured as "other". This retains a description of the rare event, but it is no longer associated with its parent survey. Example question and answer: Q: "Did any other devices have uncommanded movements during the recall period?" A: "Yes, I had an uncommanded deployment of my center main landing gear." This information is rare on a couple of counts: it is a rare system, only common to a small subset of aircraft make models. Secondly, such an event is very uncommon, and would likely be public or company knowledge at some level. For that reason, this response would be changed to "other" in the information set, but would be listed as reported in a separate section of the file without a random ID to tie it to its parent survey.

Table 3: Specific Redaction Steps: Air Carrier Survey

Section A

Questionnaire Ref	Data Type	Question Label	RedactionStrategy	Specific Redaction Action	New Categorical Field	Comments
	Numeric	Start and End Date of Recall Period	Deletion		None	
	Numeric	Calendar quarter of midpoint of recall period	Generalization	Report only the calendar year	Section A: "Recall Year"	
	Numeric	Calendar season of midpoint of recall period	Deletion		None	
A1	Numeric	Hours as crewmember on commercial aircraft during reporting period (DRP)	1. Generalization; 2. Disaggregation / Reordering	1. Bin the recall period flight hours in Section A; 2. Show recall period flight hours (as reported) in "Raw Data" section along with recall period legs flown	1. Section A: "Total Hours"; 2. Partial Raw Air Carrier Responses (Raw Data): Flight Hours (A1)	1. Section A categories: Less than 51; 51 thru 90; 91 thru 130; 131 thru 170; Greater than 170. 2. Partial Raw Air Carrier Responses (Raw Data) Flight hours (as reported) listed along side associated Flight Legs. These numbers are randomly reordered by calendar year.
A2	Numeric	Legs as crewmember on commercial aircraft DRP	Disaggregation / Reordering	Show recall period legs flown (as reported) in "Raw Data" section along with recall flight hours	Partial Raw Air Carrier Responses: "Flight Legs (A2)"	Flight legs as reported in Raw Data Section listed along side associated Flight Hours. These numbers are randomly reordered by calendar year.
A2.1	Numeric	Legs outside the United States	Generalization	If majority of legs flown outside U.S., show "International", otherwise "Domestic" or "Unk".	Section A: nominalDomesticInternational	
A3_A1	Character	First make-model flown DRP	1. Generalization; 2. Disaggregation / Reordering	1.Categorize aircraft size and propulsion type in Section A; 2.Show all responses as reported for questions A3_A1 thru A3_B6 in "Raw Data" Section.	1. Section A: nominalAcftSize, nominalPropulsion 2. Partial Raw Air Carrier Responses: "Acft X / Pct. Hours Acft X"	1. Section A categories: Widebody; Large: Medium: Small or Other; and Turbofan; Turboprop or Other. 2. Partial Raw Air Carrier Responses: Lists up to 6 make models and percent of each flown by respondent during recall period. These numbers are randomly reordered by calendar year.
A3_A2	Character	Second make-model flown DRP	Same as A3_A1	Same as A3_A1	Same as A3_A1	Same as A3_A1
A3_A3	Character	Third make-model flown DRP	Same as A3_A1	Same as A3_A1	Same as A3_A1	Same as A3_A1
A3_A4	Character	Fourth make-model flown DRP	Same as A3_A1	Same as A3_A1	Same as A3_A1	Same as A3_A1
A3_A5	Character	Fifth make-model flown DRP	Same as A3_A1	Same as A3_A1	Same as A3_A1	Same as A3_A1
A3_A6	Character	Sixth make-model flown DRP	Same as A3_A1	Same as A3_A1	Same as A3_A1	Same as A3_A1
A3_B1	Numeric	% of hours flown in first make-model DRP	Same as A3_A1	Same as A3_A1	Same as A3_A1	Same as A3_A1
A3_B2	Numeric	% of hours flown in second make-model DRP	Same as A3_A1	Same as A3_A1	Same as A3_A1	Same as A3_A1
A3_B3	Numeric	% of hours flown in third make-model DRP	Same as A3_A1	Same as A3_A1	Same as A3_A1	Same as A3_A1
A3_B4	Numeric	% of hours flown in fourth make-model DRP	Same as A3_A1	Same as A3_A1	Same as A3_A1	Same as A3_A1
A3_B5	Numeric	% of hours flown in fifth make-model DRP	Same as A3_A1	Same as A3_A1	Same as A3_A1	Same as A3_A1
A3_B6	Numeric	% of hours flown in sixth make-model DRP	Same as A3_A1	Same as A3_A1	Same as A3_A1	Same as A3_A1
A4	Numeric	% with revenue passengers	Generalization	Categorize as passenger or cargo / other based on majority of flight hours in recall period	Section A: nominalMission	Section A, nominalMission listed as: Passenger if 50% or more of recall period flight time is passenger; Cargo_or_OTH if less than 50%. This means that test flights, relocation flights, and other non cargo non passenger flights are all listed as Cargo_or_OTH.
A5	Numeric	% with cargo/freight and without passengers	Generalization	See A_4	Section A: nominalMission	See A_4
A6	Numeric	% with no passengers or cargo	Generalization	See A_4	Section A: nominalMission	See A_4
A6.a	Character	What type of flights were these?	Deletion	See A_4	None	See A_4
A7.a	Numeric	Fly commercial aircraft as a captain?	Generalization	Categorize as captain or first officer / other based on majority of flight hours in recall period	Section A: nominalPosition	Section A, nominalPosition listed as: Captain if majority of recall period flight time is as captain; FirstOfficer_or_OTH if not. This means that second pilot, flight engineer, check pilot, relief pilot, etc. are all listed as FirstOfficer_or_OTH.
A7.b	Numeric	Fly commercial aircraft as a first officer?	Generalization	See A7.a	Section A: nominalPosition	See A7.a
A7.c	Numeric	Fly commercial aircraft as a flight engineer or second officer?	Generalization	See A7.a	Section A: nominalPosition	See A7.a
A7.d	Numeric	Fly commercial aircraft as a relief pilot?	Generalization	See A7.a	Section A: nominalPosition	See A7.a
A7.e	Numeric	Fly commercial aircraft in any other capacity?	Generalization	See A7.a	Section A: nominalPosition	See A7.a
A7.e.1	Character	Other crew position or role (specify)	Deletion	See A7.a	None	See A7.a
A7.1	Numeric	Number of airplanes flown by respondent employer	Deletion		None	
A8	Numeric	Total career hours flying commercial aircraft	Generalization	Categorize as highest 25%, lowest 25% and mid 50% of responses	Section A: nominalCareerExperience	Section A: Low = 6000 or fewer hours; High = 15,000 or more hours; Medium is between 6000 and 15,000 hours.

Table 3: Specific Redaction Steps: Air Carrier Survey (continued)

Section B

Questionnaire Ref	Data Type	Question Label	RedactionStrategy	Specific Redaction Action	New Categorical Field	Comments
ER1	Numeric	Diversion due to equipment problem	NO CHANGE			
ER1.a	Character	Diversion cause	Generalization	Categorize systems by ATA codes	Section B: ER1.ata	FAA / Air Transport Association of America (ATA) Joint Aircraft System/Component Code Table Definitions; e.g.: "27 Flight Controls"; "71 Power Plant"; "34 Navigation/Pitot Static"; etc.
ER2	Numeric	Hazmat spill, fire, or fumes	Editing	High Unique		See Table 5
ER2.a	Numeric	Hazmat spill, fire, or fumes in cargo compartment	Editing	High Unique		See Table 5
ER2.b	Numeric	Hazmat spill, fire, or fumes in passenger compartment	Disaggregation	Rare Event		See Table 6
ER2.c	Numeric	Hazmat spill, fire, or fumes out of regulatory compliance	Disaggregation	Rare Event		See Table 6
ER3	Numeric	Cargo shift	NO CHANGE			
ER4.a	Numeric	Uncommanded movement of elevators	NO CHANGE			
ER4.b	Numeric	Uncommanded movement of rudder	NO CHANGE			
ER4.c	Numeric	Uncommanded movement of ailerons	NO CHANGE			
ER4.d	Numeric	Uncommanded movement of spoilers	NO CHANGE			
ER4.e	Numeric	Uncommanded movement of speedbrakes	Editing	High Unique		See Table 5
ER4.f	Numeric	Uncommanded movement of trimtabs	NO CHANGE			
ER4.g	Numeric	Uncommanded movement of flaps	NO CHANGE			
ER4.h	Numeric	Uncommanded movement of slats	Editing	High Unique		See Table 5
ER4.i	Numeric	Uncommanded movement of other	NO CHANGE			
ER4.i.1_1	Character	Uncommanded movement of other device 1 name	Generalization / Disaggregation	Categorize systems by ATA codes	Section B: ER4.i.ata_1; and ER4.i OTHER	See ER1.a Comments for explanation of ATA codes. Also, when a system is only called out rarely, it is referred to as "Other", and a diaggregated list of these systems is listed by ATA code in Section B, ER4.i OTHER
ER4.i.1_2	Character	Uncommanded movement of other device 2 name	Generalization / Disaggregation	Categorize systems by ATA codes	Section B: ER4.i.ata_2; and ER4.i OTHER	See ER4.i.1_1 Comments
ER4.i.1_3	Character	Uncommanded movement of other device 3 name	Generalization / Disaggregation	Categorize systems by ATA codes	Section B: ER4.i.ata_3; and ER4.i OTHER	See ER4.i.1_1 Comments
ER4.i.1_4	Character	Uncommanded movement of other device 4 name	Generalization / Disaggregation	Categorize systems by ATA codes	Section B: ER4.i.ata_4; and ER4.i OTHER	See ER4.i.1_1 Comments
ER4.i.2_1	Numeric	Uncommanded movement of other device 1 count	NO CHANGE			
ER4.i.2_2	Numeric	Uncommanded movement of other device 2 count	NO CHANGE			
ER4.i.2_3	Numeric	Uncommanded movement of other device 3 count	NO CHANGE			
ER4.i.2_4	Numeric	Uncommanded movement of other device 4 count	NO CHANGE			
ER5.a	Numeric	Fire, smoke, or fumes; engine or nacelle	NO CHANGE			
ER5.a.1	Numeric	Fire, smoke, or fumes; engine or nacelle; electrical	Disaggregation	Rare Event		See Table 6
ER5.b	Numeric	Fire, smoke, or fumes; flight deck	NO CHANGE			
ER5.b.1	Numeric	Fire, smoke, or fumes; flight deck; electrical	NO CHANGE			
ER5.c	Numeric	Fire, smoke, or fumes; cargo hold	NO CHANGE			
ER5.c.1	Numeric	Fire, smoke, or fumes; cargo hold; electrical	Disaggregation	Rare Event		See Table 6
ER5.d	Numeric	Fire, smoke, or fumes; galley	NO CHANGE			
ER5.d.1	Numeric	Fire, smoke, or fumes; galley; electrical	NO CHANGE			
ER5.e	Numeric	Fire, smoke, or fumes; elsewhere in pax comp't	NO CHANGE			
ER5.e.1	Numeric	Fire, smoke, or fumes; elsewhere in pax comp't; electrical	NO CHANGE			
ER5.f	Numeric	Fire, smoke, or fumes; elsewhere	NO CHANGE			
ER5.f.1	Character	Fire, smoke, or fumes; elsewhere; location in aircraft	Editing / Disaggregation	List all answers as "Other" and list locations (as reported) in disaggregated table	Section B: ER5.f.1 and ER5.f OTHERS	
ER5.f.2	Character	Fire, smoke, or fumes; elsewhere; location in aircraft	Editing / Disaggregation	List all answers as "Other" and list locations (as reported) in disaggregated table	Section B: ER5.f.2 and ER5.f OTHERS	
ER5.f.3	Character	Fire, smoke, or fumes; elsewhere; location in aircraft	Editing / Disaggregation	List all answers as "Other" and list locations (as reported) in disaggregated table	Section B: ER5.f.3 and ER5.f OTHERS	
ER6	Numeric	Precautionary engine Shutdown	NO CHANGE			
ER7	Numeric	Total engine failure	NO CHANGE			
TU1	Numeric	Severe turbulence encounter	NO CHANGE			
TU1.a	Numeric	Severe turbulence encounter in IMC	NO CHANGE			
TU1.b	Numeric	Severe turbulence encounter in clear air	NO CHANGE			
TU2	Numeric	Wake turbulence encounter	NO CHANGE			
WE1	Numeric	Lacked good wx Info while airborne	NO CHANGE			
WE1.a	Numeric	Lacked good wx Info while airborne; non-US Arpt or Ctlr	NO CHANGE			
WE1.b	Numeric	Lacked good wx Info while airborne; Involved ATIS	NO CHANGE			
WE2	Numeric	ATC denied request to circumvent wx	NO CHANGE			
WE2.a	Numeric	ATC denied request to circumvent wx; emergency Invoked	NO CHANGE			
WE3	Numeric	Diverted to Alternate airfield because of wx	NO CHANGE			
WE4	Numeric	Airframe Icing Affecting Performance or Control	NO CHANGE			
WE5	Numeric	Wind shear or microburst encounter; >15 knot airspeed Chg	NO CHANGE			
WE6	Numeric	Wind shear or microburst encounter; wind shear Maneuver	NO CHANGE			

Table 3: Specific Redaction Steps: Air Carrier Survey (continued)

Section B (continued)

Questionnaire Ref	Data Type	Question Label	RedactionStrategy	Specific Redaction Action	New Categorical Field	Comments
CP1	Numeric	Expedited Indg or diversion due to pax Medical emergency	NO CHANGE			
CP2	Numeric	Expedited Indg or diversion due to pax disturbance	NO CHANGE			
CP3	Numeric	Pilot left cockpit to Deal with pax disturbance	NO CHANGE			
AC1	Numeric	Bird strike	NO CHANGE			
AC2	Numeric	Evasive action; >500 ft Separation	NO CHANGE			
AC3	Numeric	<500 ft Separation	NO CHANGE			
GE1	Numeric	Runway or taxiway excursion	Disaggregation	Rare Event		See Table 6
GE2	Numeric	Ground conflict with vehicle	NO CHANGE			
GE2.a	Numeric	Ground conflict with vehicle on ramp	NO CHANGE			
GE2.b	Numeric	Ground conflict with vehicle on taxiway	NO CHANGE			
GE2.c	Numeric	Ground conflict with vehicle on runway	Disaggregation	Rare Event		See Table 6
GE3	Numeric	Landing Skid	NO CHANGE			
GE4	Numeric	Rejected takeoff	NO CHANGE			
GE5	Numeric	Runway edge excursion	Disaggregation	Rare Event		See Table 6
GE6	Numeric	Runway overrun	Disaggregation	Rare Event		See Table 6
GE7	Numeric	Runway Incursion	NO CHANGE			
GE8	Numeric	Takeoff roll conflict with other aircraft	NO CHANGE			
GE9	Numeric	Landing conflict with other aircraft	NO CHANGE			
GE10	Numeric	Ground conflict with aircraft	NO CHANGE			
GE10.a	Numeric	Ground conflict with aircraft on ramp	NO CHANGE			
GE10.b	Numeric	Ground conflict with aircraft on taxiway	NO CHANGE			
GE10.c	Numeric	Ground conflict with aircraft on runway	Disaggregation	Rare Event		See Table 6
AH1	Numeric	Used Reserve Fuel	NO CHANGE			
AH2	Numeric	Accepted clearance; could not comply	NO CHANGE			
AH3	Numeric	Lost sight of visually separated aircraft	NO CHANGE			
AH3.a	Numeric	Lost sight of visually separated aircraft in marginal VMC	NO CHANGE			
AH4	Numeric	Landed without clearance	Editing	High Unique		See Table 5
AH5	Numeric	Began takeoff roll without clearance	Disaggregation	Rare Event		See Table 6
AH6	Numeric	Track deviation	NO CHANGE			
AH7	Numeric	Tail strike on landing	NO CHANGE			
AH8	Numeric	Tail strike on takeoff	Disaggregation	Rare Event		See Table 6
AH9	Numeric	Hard landing	Editing	High Unique		See Table 5
AH10	Numeric	Out-of-balance takeoff	Editing	High Unique		See Table 5
AH11	Numeric	Overweight takeoff	Editing	High Unique		See Table 5
AH12	Numeric	Commenced takeoff with improper configuration	Editing	High Unique		See Table 5
AH13	Numeric	Unusual attitude	Editing	High Unique		See Table 5
AH14	Numeric	Stall warning	Editing	High Unique		See Table 5
AH15	Numeric	Near airborne collision w terrain or obstr'n	Disaggregation	Rare Event		See Table 6
AH15.a	Numeric	Near airborne collision w terrain or obstr'n; ATC warning	Disaggregation	Rare Event		See Table 6
AH15.b	Numeric	Near airborne collision w terrain or obstr'n; direct observ'n	Disaggregation	Rare Event		See Table 6
AH15.c	Numeric	Near airborne collision w terrain or obstr'n; GPWS or EGPWS?	Disaggregation	Rare Event		See Table 6
AH15.c.1	Numeric	How many detected through activation of EGPWS?	Disaggregation	Rare Event		See Table 6
AD1	Numeric	Altitude deviation; >300 ft	Editing	High Unique		See Table 5
AD1.a	Numeric	Altitude deviation; >300 ft due to TCAS RA	NO CHANGE			
AD2	Numeric	Descent Below MSA	NO CHANGE			
AT1	Numeric	Unable time-critical com with ATC	Editing	High Unique		See Table 5
AT1.a	Numeric	Unable time-critical com with ATC; ground	NO CHANGE			
AT1.b	Numeric	Unable time-critical com with ATC; airborne; terminal	NO CHANGE			
AT1.c	Numeric	Unable time-critical com with ATC; airborne; Enroute	NO CHANGE			
AT2	Numeric	Rushed approach due to ATC	Editing	High Unique		See Table 5

Table 3: Specific Redaction Steps: Air Carrier Survey (continued)

Section C (ICAC)

Questionnaire Ref	Data Type	Question Label	RedactionStrategy	Specific Redaction Action	New Categorical Field	Comments
IC1	Numeric	ICAC requests received	Editing	High Unique		Not considered a "safety event", thus not summarized in table 5
IC1.a	Numeric	ICAC requests	Editing	High Unique		See Table 5
IC1.b.1	Numeric	Followed by unstable approach	NO CHANGE			
IC1.b.2	Numeric	Followed by go-Around	Editing	High Unique		See Table 5
IC1.b.3	Numeric	Followed by airborne conflict	NO CHANGE			
IC1.b.4	Numeric	Followed by wake turbulence encounter	NO CHANGE			
IC1.b.5	Numeric	Followed by out-of-limit landing	Editing	High Unique		Same as 1C1
IC1.b.6	Numeric	Followed by wrong runway landing	NO CHANGE			
IC1.b.7	Numeric	Followed by landing long or fast	Editing	High Unique		See Table 5
IC1.b.8	Numeric	Followed by landing without clearance	Disaggregation	Rare Event		See Table 7
IC1.b.9	Numeric	Followed by ground conflict	Editing	High Unique		See Table 5
IC1.b.10	Numeric	Followed by other undesirable event	Editing	High Unique		See Table 5
IC1.b.10.a	Character	Other undesirable event (specify)	Editing / Disaggregation	Disaggregate "Other" responses	Section C (ICAC): 1C1.b.10.a, and 1C1.b.10.a OTHER	Events edited for explicit identification. Where an event is rare, it is listed as "Other", disiaggregated and listed in 1C1.b.10.a OTHER.
IC1.c.1	Numeric	Unstable approach (most recent ICAC)	NO CHANGE			
IC1.c.2	Numeric	Go-Around (most recent ICAC)	NO CHANGE			
IC1.c.3	Numeric	Approach (most recent ICAC)	Disaggregation	Rare Event		See Table 7
IC1.c.4	Numeric	Wake turbulence encounter (most recent ICAC)	Disaggregation	Rare Event		See Table 7
IC1.c.5	Numeric	Out-of-limit landing (most recent ICAC)	Disaggregation	Rare Event		See Table 7
IC1.c.6	Numeric	Wrong runway landing (most recent ICAC)	NO CHANGE			
IC1.c.7	Numeric	Landing long or fast (most recent ICAC)	NO CHANGE			
IC1.c.8	Numeric	Landing without clearance (most recent ICAC)	Disaggregation	Rare Event		See Table 7
IC1.c.9	Numeric	Ground conflict (most recent ICAC)	Disaggregation	Rare Event		See Table 7
IC1.c.10	Numeric	Other undesirable event (most recent ICAC)	NO CHANGE			
IC2	Character	Airport location-name (most recent ICAC)	Generalization		Section C (ICAC): IC2.config, IC2.scale	Config (runway configuration): Single; Multi-Parallel; Multi-Intersecting; Multi-Both.
IC2.a	Character	Airport location-ID (most recent ICAC)	Deletion			
IC3	Character	Model of aircraft flown During (most recent ICAC)	Generalization		Section C (ICAC): IC3.aircraftsize, IC3.propulsion	Same categories as in Section A3_A1
IC4	Numeric	Aircraft was FMS equipped (most recent ICAC)	NO CHANGE			
IC4.a	Numeric	FMS capable of storing multiple routes (most recent ICAC)	NO CHANGE			
IC4.b	Numeric	Frequency changes made through FMS (most recent ICAC)	NO CHANGE			
IC5	Numeric	FMS was reprogrammed (most recent ICAC)	NO CHANGE			
IC6.a	Numeric	Inputs loaded properly (most recent ICAC)	NO CHANGE			
IC6.b	Numeric	Possible to complete programming in time (most recent ICAC)	NO CHANGE			
IC6.c	Numeric	Programming cross-checked by other crew (most recent ICAC)	NO CHANGE			
IC6.d	Numeric	Were programming difficulties (most recent ICAC)	NO CHANGE			
IC6.d.1	Character	Other programming difficulties (specify)	Editing / Disaggregation	Disaggregate "Other" responses	Section C (ICAC): 1C6.d.1, and 1C6.d.1 OTHER	Events edited for explicit identification. Where an event is rare, it is listed as "Other", disiaggregated and listed in 1C6.d.1 OTHER.
IC7	Numeric	FMS Assisted in complying with ICAC (most recent ICAC)	NO CHANGE			
IC8	Numeric	Aircraft on instrument approach Prior to ICAC (most recent ICAC)	NO CHANGE			
IC8.a	Numeric	ICAC changed instrument approach to visual	NO CHANGE			
IC9	Numeric	ICAC changed visual approach to instrument	NO CHANGE			
IC10	Numeric	Aircraft programmed for auto-coupled approach (most recent ICAC)	NO CHANGE			
IC11	Numeric	ICAC changed assigned runway (most recent ICAC)	NO CHANGE			
IC11.a	Numeric	ICAC changed was from one parallel to another	NO CHANGE			
IC12	Numeric	ICAC changed assigned altitude (most recent ICAC)	NO CHANGE			
IC13	Numeric	ICAC changed assigned airspeed (most recent ICAC)	NO CHANGE			
IC14.a	Numeric	In response, FLC changed NavAid frequency	NO CHANGE			
IC14.a.1	Numeric	New NavAid identity was confirmed	NO CHANGE			
IC14.b	Numeric	In response, FLC changed ATC frequency	NO CHANGE			
IC14.c	Numeric	In response, FLC Revised approach briefing	NO CHANGE			
IC14.d	Numeric	In response, FLC changed the aircraft configuration	NO CHANGE			
IC14.e	Numeric	In response, FLC disconnected 1 or more automatics	NO CHANGE			
IC15	Numeric	FLC given reason for ICAC	NO CHANGE			
IC15.a.1	Numeric	Wake turbulence Avoidance	NO CHANGE			
IC15.a.2	Numeric	Traffic flow and Separation	NO CHANGE			
IC15.a.3	Numeric	Providing a runway favorable to gate	NO CHANGE			
IC15.a.4	Numeric	Change in active runway	NO CHANGE			
IC15.a.5	Numeric	Weather or wind factors	NO CHANGE			
IC15.a.6	Numeric	Noise abatement factors	Disaggregation	Rare Event		See Table 7
IC15.a.7	Numeric	ATC equipment problems	Disaggregation	Rare Event		See Table 7
IC15.a.8	Numeric	Other factors	NO CHANGE			
IC15.a.8.a	Character	Other reason for clearance change (specify)	Editing / Disaggregation	Disaggregate "Other" responses	Section C (ICAC): 1C15.a.8.a, and 1C15.a.8.a OTHER	Events edited for explicit identification. Where an event is rare, it is listed as "Other", disiaggregated and listed in 1C15.a.8.a OTHER.
IC16.a	Numeric	ICAC reduced quality of ICAC coordination	NO CHANGE			
IC16.b	Numeric	ICAC reduced situational awareness	NO CHANGE			
IC16.c	Numeric	ICAC compromised traffic watch	NO CHANGE			
IC16.d	Numeric	ICAC compromised safety In other way	NO CHANGE			
IC16.d.1	Character	Other way safety compromised (specify)	Editing / Disaggregation	Disaggregate "Other" responses	Section C (ICAC): 1C16.d.1, and 1C16.d.1 OTHER	Events edited for explicit identification. Where an event is rare, it is listed as "Other", disiaggregated and listed in 1C16.d.1 OTHER.

Table 3: Specific Redaction Steps: Air Carrier Survey (continued)

Section C (JIMDAT)

Questionnaire Ref	Data Type	Question Label	RedactionStrategy	Specific Redaction Action	New Categorical Field	Comments
JD1	Numeric	Aircraft equipped with GPWS?	NO CHANGE			
JD1.a	Numeric	Aircraft equipped with EGPWS or GPWS?	NO CHANGE			
JD1.b	Numeric	Require terrain display selected during takeoff?	NO CHANGE			
JD1.c	Numeric	Require terrain display selected during descent and landing?	NO CHANGE			
JD1.d	Numeric	Do you usually use terrain display during takeoff?	NO CHANGE			
JD1.e	Numeric	Do you usually use terrain display during descent and landing?	NO CHANGE			
JD1.f	Numeric	Has the terrain display experienced a map shift?	NO CHANGE			
JD2	Numeric	Number of times experiencing a ground proximity warning	Editing	High Unique		See Table 5
JD2.a	Numeric	Ground proximity warning valid?	NO CHANGE			
JD2.b	Numeric	Was the most recent valid ground proximity warning sighted before aural alert?	NO CHANGE			
JD3	Numeric	Number of times received an MSAW alert	Disaggregation	Rare Event		See Table 8
JD3.a	Character	What did your aircraft do in response to the warning during the most recent MSAW event?	Editing	Edit for explicit identification		
JD3.b	Numeric	Did aircraft have EGPWS or TAWS?	Disaggregation	Rare Event		See Table 8
JD3.b.1	Numeric	In an EGPWS equipped aircraft, did your aircraft also receive a warning from this system?	NO CHANGE			
JD4	Numeric	Number of times aircraft flew a non-precision approach	Editing	High Unique		Same as 1C1
JD4.a	Numeric	How many non-precision approaches flown in IMC?	NO CHANGE			
JD5	Numeric	# times flew un-stabilized non-precision approach	Editing	High Unique		Same as 1C1
JD5.a	Character	What contributed to the un-stabilized approach?	Editing	Edit for explicit identification		
JD6	Numeric	Have the choice between flying a constant angle approach or step-down non-precision approach?	NO CHANGE			
JD6.a	Numeric	Which did you choose most often, constant angle approach or step-down non-precision approach?	NO CHANGE			
JD7	Numeric	Number of times non-precision approach when glideslope info available	Editing	High Unique		Same as 1C1
JD7.a	Numeric	Did you use the glideslope info?	NO CHANGE			
JD8	Numeric	Aircraft LNAV/VNAV capable?	NO CHANGE			
JD8.a	Numeric	Does your airline require pilots to use LNAV/VNAV?	NO CHANGE			
JD8.a.1	Numeric	LNAV/VNAV capable: # constant angle approaches	Editing	High Unique		Same as 1C1
JD8.b	Numeric	Not fly an LNAV/VNAV approach when that option was available?	NO CHANGE			
JD8.b.1	Character	Explanation of "other" approaches in an LNAV/VNAV capable aircraft	Editing	Edit for explicit identification		
JD9	Numeric	Does aircraft meet RNP standards?	NO CHANGE			
JD9.a	Numeric	RPN capable aircraft: RNP available and used	NO CHANGE			
JD9.b	Numeric	Number times flew an RNP approach?	Editing	High Unique		Same as 1C1
JD9.c	Numeric	Number of times not flown RNP approach when option available?	Editing	High Unique		Same as 1C1
JD9.c.1	Character	Why was a RNP approach not flown when it was available?	Editing	Edit for explicit identification		
JD10	Numeric	Fly a non-precision approach into an airport without DME?	Editing	High Unique		Same as 1C1
JD10.a	Numeric	Would DME have improved your ability to land safely?	NO CHANGE			
JD11	Numeric	Instrument approach where vertical angle guid. info unavail	Editing	High Unique		Same as 1C1
JD11.a	Numeric	DME used to calculate the rate of descent?	NO CHANGE			
JD12	Numeric	Land on a runway without VASI or PAPI?	NO CHANGE			
JD12.a	Numeric	Would VASI or PAPI have improved ability to land safely?	NO CHANGE			
JD13	Numeric	SOP: CFIT prevention	NO CHANGE			
JD14	Numeric	SOP: Avoid circumstances assoc w/ inflight loss of control	NO CHANGE			
JD15	Numeric	SOP: recovery from unusual attitudes, departure from cntrl flt	NO CHANGE			
JD16	Numeric	SOP: approach and landing accidents	NO CHANGE			
JD17	Numeric	SOP: non-precision approaches	NO CHANGE			
JD18	Numeric	SOP: require constant angle non-precision approaches	NO CHANGE			
JD19	Numeric	SOP: EGPWS warnings	NO CHANGE			
JD20.MONTH	Numeric	Month of recurrent training	Generalization	Change date to general categories of time elapsed	JD20.recency	LE 6 = Less than or equal to 6 months; LE 12 = less than or equal to 12 months; GT 12 = greater than 12 months
JD20.YEAR	Numeric	Year of recurrent training	Generalization	Change date to general categories of time elapsed	JD20.recency	LE 6 = Less than or equal to 6 months; LE 12 = less than or equal to 12 months; GT 12 = greater than 12 months
JD21	Numeric	Training: airmanship	NO CHANGE			
JD21.a	Numeric	Training: normal approach	NO CHANGE			
JD21.b	Numeric	Training: approach briefings	NO CHANGE			
JD21.c	Numeric	Training: go-around & missed approaches	NO CHANGE			
JD21.d	Numeric	Training: approach execution	NO CHANGE			
JD21.e	Numeric	Training: emergency conditions	NO CHANGE			

Table 3: Specific Redaction Steps: Air Carrier Survey (continued)

Section C (JIMDAT) continued

Questionnaire Ref	Data Type	Question Label	RedactionStrategy	Specific Redaction Action	New Categorical Field	Comments
JD22	Numeric	Did you have CFIT training?	NO CHANGE			
JD22.a.MONTH	Numeric	Month CFIT prevention training	Generalization	Change date to general categories	JD20.recency	LE 6 = Less than or equal to 6 months; LE 12 = less than or equal to 12 months; GT 12 = greater than 12 months
JD22.a.YEAR	Numeric	Year CFIT prevention training	Generalization	Change date to general categories	JD20.recency	LE 6 = Less than or equal to 6 months; LE 12 = less than or equal to 12 months; GT 12 = greater than 12 months
JD22.b	Numeric	CFIT: moca	NO CHANGE			
JD22.c	Numeric	CFIT: MEA	NO CHANGE			
JD22.d	Numeric	CFIT: MORAs	NO CHANGE			
JD22.e	Numeric	CFIT: GPWS or EGPWS	NO CHANGE			
JD22.f	Numeric	CFIT: escape maneuvers	NO CHANGE			
JD22.g	Numeric	CFIT: drift down procedures	NO CHANGE			
JD22.h	Numeric	CFIT: situational awareness	NO CHANGE			
JD22.i	Numeric	CFIT: CRM	NO CHANGE			
JD22.j	Numeric	Quality of the CFIT prevention training you received from your airline?	NO CHANGE			
JD23	Numeric	Did you have upset recovery training?	NO CHANGE			
JD23.a.MONTH	Numeric	Month upset recovery training	Generalization	Change date to general categories	JD20.recency	LE 6 = Less than or equal to 6 months; LE 12 = less than or equal to 12 months; GT 12 = greater than 12 months
JD23.a.YEAR	Numeric	Year upset recovery training	Generalization	Change date to general categories	JD20.recency	LE 6 = Less than or equal to 6 months; LE 12 = less than or equal to 12 months; GT 12 = greater than 12 months
JD23.b	Numeric	Where was upset recovery training	NO CHANGE			
JD23.c	Numeric	Quality of the upset recovery training	NO CHANGE			
JD24	Numeric	Does your airline have CRM training	NO CHANGE			
JD24.a	Numeric	Have you received the training?	NO CHANGE			
JD24.b	Numeric	Did CRM training change how you manage flight desk?	NO CHANGE			
JD24.c	Numeric	Do you have suggestions for improving CRM training?	NO CHANGE			
JD24.d	Character	List the suggestions	Editing	Edit for explicit identification		
JD25	Numeric	Does airline have a no-fault missed approach policy?	NO CHANGE			
JD25.a	Numeric	Favor or oppose institution of policy	NO CHANGE			
JD26	Numeric	Did you perform a missed approach or go around?	NO CHANGE			
JD26.a	Numeric	Did you receive feedback from airline?	Disaggregation	Rare Event		See Table 8
JD26.b	Numeric	Was feedback positive, negative, or both?	Disaggregation	Rare Event		See Table 8
JD27	Numeric	ASAP program?	NO CHANGE			
JD27.a	Numeric	ASAP: been briefed?	NO CHANGE			
JD27.b	Numeric	ASAP: told of general purpose?	NO CHANGE			
JD27.c	Numeric	ASAP: told how to submit report?	NO CHANGE			
JD27.d	Numeric	Would you submit an ASAP report?	NO CHANGE			
JD27.d.1	Character	Why not submit an ASAP report	Editing	Edit for explicit identification		
JD27.e	Numeric	confidentiality of ASAP data?	NO CHANGE			
JD27.e.1	Character	Why feel ASAP data not adequately protected	Editing	Edit for explicit identification		
JD27.f	Numeric	Aware of positive changes from ASAP program?	NO CHANGE			
JD28	Numeric	Does airline have a program other than ASAP?	NO CHANGE			
JD28.a	Numeric	Are you aware of positive changes?	NO CHANGE			
JD28.b	Numeric	Position on the establishment of an ASAP program?	NO CHANGE			
JD29	Numeric	Does your airline have a FOQA program?	NO CHANGE			
JD29.a	Numeric	Position on the establishment of a FOQA program at your airline?	NO CHANGE			
JD29.b	Numeric	FOQA: Been briefed?	NO CHANGE			
JD29.c	Numeric	Confidentiality of FOQA data is adequately protected?	NO CHANGE			
JD29.d	Numeric	FOQA: resultant safety improvements	NO CHANGE			
JD30	Numeric	CEO mission statement?	NO CHANGE			
JD31	Numeric	Director of safety?	NO CHANGE			
JD32	Numeric	VP of safety?	NO CHANGE			
JD33	Numeric	Observed a strong commitment to safety among senior management?	NO CHANGE			
JD33.a	Numeric	Senior management commitment to safety reflected throughout the organization?	NO CHANGE			
JD34	Numeric	Mechanism for bringing a concern to the attention of senior management?	NO CHANGE			
JD34.a	Numeric	How effective is this mechanism for bringing concerns to the attention of senior management?	NO CHANGE			

Table 3: Specific Redaction Steps: Air Carrier Survey (continued)

Section D

Questionnaire Ref	Data Type	Question Label	RedactionStrategy	Specific Redaction Action	New Categorical Field	Comments
D1	Numeric	Confidence in accurately counting all safety-related events	NO CHANGE			
D2	Numeric	Were any questions confusing, poorly worded, or ambiguous?	NO CHANGE			
D2.a	Character	Describe question problems	Editing	Edit for explicit identification		
D3	Numeric	Any additional safety problems worth asking about?	NO CHANGE			
D3.a	Character	Describe these problems	Editing / Disaggregation	Edit for explicit identification and list separately in random order all comments		
D4	Numeric	Do you use the Internet at home?	NO CHANGE			
D5	Character	Comments or suggestions about this survey	Editing / Disaggregation	Edit for explicit identification and list separately in random order all comments		

Table 4: Specific Redaction Steps: General Aviation Survey (Fixed Wing)

Section A

Question	Data Type	Question Label	RedactionStrategy (Fixed Wing)	Specific Redaction Action (Fixed Wing)	New Field	Comments
	Numeric	Length of recall period used for event questions	Deletion			All GA survey recall periods were 60 days
	Numeric	Calendar quarter of midpoint of recall period	Deletion			
	Numeric	Calendar season of midpoint of recall period	Deletion			
GA1	Numeric	ATP Certificate or Instrument Rating	Deletion			
GA1.A	Numeric	IFR Current	Deletion			
GA2	Numeric	Hours Flown during Lifetime	1. Generalization, 2. Disaggregation / Reordering	1. Categorize as highest 25%, lowest 25% and mid 50% of responses; 2. Show all responses in "Raw Data" Section.	1. Section A: "nominalExperience"; 2. Partial Raw GA Resp (Raw Data): "Career Hours"	1. Section A categories: Low (lowest 25%, <= 500 hrs), Medium (mid 50%, > 500 hrs and <= 5500 hrs) and High (highest 25% > 5500 hrs). 2. Partial Raw General Aviation Responses (Raw Data): hours flown during lifetime listed as Career Hours. Numbers randomly reordered.
GA3	Numeric	Hours Flown as Pilot or Copilot in the Last 60 Days	Deletion			
GA3.A	Numeric	Verification of Hours Flown in the Last 60 Days	Deletion			
GA3.B	Numeric	Hours Flown in the Last 60 Days (all-inclusive)	Deletion			
GA4	Numeric	Hours Flown Under FAR Part 121 Air Carrier Ops	Deletion			
GA5	Numeric	Hours Flown Under FAR Part 135 Air Taxi or Other Ops	1. Generalization, 2. Disaggregation / Reordering	Airplane, Helicopter hrs summed. 1. Total recall period flight hours binned in Section A; 2. Total recall period flight hrs in "Raw Data" section along with legs flown	1. Section A: "Total Hours"; 2. Partial Raw General Aviation Responses (Raw Data): Flight Hours (GA5+GA6)	Questions GA.5 and GA.6 responses were summed to create total hours. 1. Section A Categories: Hours were rounded up to the nearest 5 up to 80, then reported as 'at least 80'. 2. Partial Raw General Aviation Responses (Raw Data): Flight hours (as reported) listed along side associated Flight Legs. These numbers randomly reordered.
GA5.A	Numeric	Hours in Fixed-Wing Airplanes (Part 135)	Deletion			
GA5.B	Numeric	Hours in Helicopters (Part 135)	Deletion			
GA6	Numeric	Hours as GA Pilot FAR Part 91	See GA.5	See GA.5	See GA.5	See GA.5
GA6.A	Numeric	Hours in Fixed-Wing Airplanes (Part 91)	Deletion			
GA6.B	Numeric	Hours in Helicopters (Part 91)	Deletion			
GA7	Numeric	Legs Flown as Pilot Under FAR Part 121	Deletion			
GA8	Numeric	Flights Flown as Airplane Pilot Under FAR Part 135	Disaggregation / Reordering	Airplane, Helicopter operations under parts 135 and 91 summed to get total legs; summed response shown in Raw Data section	Partial Raw General Aviation Responses: "Flight Legs (GA8+GA9+GA10+GA11)"	Question GA.8, GA.9, GA.10 and GA.11 responses were summed to get total flight legs. Partial Raw General Aviation Responses (Raw Data): Flight legs as reported along side associated Flight Hours. These numbers randomly reordered.
GA8.A	Numeric	Flights Flown as Pilot in Command	Generalization	Categorize as pilot in command or other based on majority of flight hours in recall period	Section A: "nominalPosition"	Question GA.8A, GA.9A, GA.10A and GA.11A responses summed to get total flights flown as Pilot in Command. Info used along with total legs (see Ques. GA.8 comment) to categorize based on majority of flight experience. Section A Categories: PIC, OTH
GA8.B	Numeric	Flights Flown During Night Conditions	Generalization	Categorize as day / night based on majority of flight legs in recall period	Section A: "nominalNight"	Question GA.8.B, GA.9.B, GA.10.B and GA.11.B responses were summed to get total flights flown under night conditions. This variable used along with total flight legs (see Question GA.8 comment) to categorize as day and night flights based on majority of flight legs. Section A categories: Day, Night.
GA8.C	Numeric	Flights Under IFR Flight Plan	Deletion			
GA8.D	Numeric	Flights > 50 Nautical Miles	Generalization	Categorize as less than or greater than 50 nautical miles based on majority of flights during the recall period	Section A: nominalFlightLength	Question GA.8.D, GA.9.D, GA.10.D and GA.11.D responses summed to get total flights flown with distances greater than 50 nm. This variable used along with total flight legs (see GA.8 comment) to categorize flight length based on majority of flight legs. Section A categories: LT50NM = less than 50 nm, GE50NM = greater than or equal to 50 nm.
GA8.E	Numeric	Flights From International Destinations (other than Canada)	Deletion			
GA9	Numeric	Takeoffs Flown as Helicopter Pilot Under FAR Part 135	See GA.8	See GA.8	See GA.8	See GA.8
GA9.A	Numeric	Flights Flown as Pilot in Command	See GA.8A	See GA.8A	See GA.8A	See GA.8A
GA9.B	Numeric	Flights Flown During Night Conditions	See GA.8B	See GA.8B	See GA.8B	See GA.8B
GA9.C	Numeric	Flights Flown Under IFR Flight Plan	Deletion			
GA9.D	Numeric	Flights Flown > 50 Nautical Miles	See GA.8D	See GA.8D	See GA.8D	See GA.8D
GA9.E	Numeric	Flights From International Destinations (other than Canada)	Deletion			
GA10	Numeric	Takeoffs Flown as Airplane Pilot Under FAR Part 91	See GA.8	See GA.8	See GA.8	See GA.8
GA10.A	Numeric	Flights Flown as Pilot in Command	See GA.8A	See GA.8A	See GA.8A	See GA.8A
GA10.B	Numeric	Flights Flown During Night Conditions	See GA.8B	See GA.8B	See GA.8B	See GA.8B
GA10.C	Numeric	Flights Flown Under IFR Flight Plan	Deletion			
GA10.D	Numeric	Flights Flown > 50 Nautical Miles	See GA.8D	See GA.8D	See GA.8D	See GA.8D
GA10.E	Numeric	Flights From International Destinations (other than Canada)	Deletion			

Table 4: Specific Redaction Steps: General Aviation Survey (Fixed Wing) (continued)

Section A (continued)

Question	Data Type	Question Label	RedactionStrategy (Fixed Wing)	Specific Redaction Action (Fixed Wing)	New Field	Comments
GA11	Numeric	Takeoffs Flown as Helicopter Pilot Under FAR Part 91	See GA.8	See GA.8	See GA.8	See GA.8
GA11.A	Numeric	Flights Flown as Pilot in Command	See GA.8A	See GA.8A	See GA.8A	See GA.8A
GA11.B	Numeric	Flights Flown During Night Conditions	See GA.8B	See GA.8B	See GA.8B	See GA.8B
GA11.C	Numeric	FlightsFlown Under IFR Flight Plan	Deletion			
GA11.D	Numeric	Flights Flown > 50 Nautical Miles	See GA.8D	See GA.8D	See GA.8D	See GA.8D
GA11.E	Numeric	Flights From International Destinations (other than Canada)	Deletion			
GA12.A	Numeric	Flew as Instructor	Deletion			
GA12.A_1	Numeric	Hours Flown as Instructor	Deletion			
GA12.B	Numeric	Flew as Student	Deletion			
GA12.B_1	Numeric	Hours Flown as Student	Deletion			
GA12.C	Numeric	Flew as Corporate Pilot	Deletion			
GA12.C_1	Numeric	Hours Flown for Corporate Transport	Deletion			
GA12.D	Numeric	Flew on Own Business Activities	Deletion			
GA12.D_1	Numeric	Hours Flown for Own Business Activities	Deletion			
GA12.E	Numeric	Flew for Government or Public Purposes	Deletion			
GA12.E_1	Numeric	Hours Flown for Government or Public Purposes	Deletion			
GA12.F	Numeric	Flew with Revenue Passengers	Deletion			
GA12.F_1	Numeric	Hours Flown for Paying Passengers	Deletion			
GA12.G	Numeric	Flew for Cargo Transport	Deletion			
GA12.G_1	Numeric	Hours Flown for Cargo Transport	Deletion			
GA12.H	Numeric	Flew with Patients or Medical Products	Deletion			
GA12.H_1	Numeric	Hours Flown for Patient or Medical Product Transport	Deletion			
GA12.I	Numeric	Flew for Recreation or Personal Transport	Deletion			
GA12.I_1	Numeric	Hours Flown for Recreation	Deletion			
GA12.J	Numeric	Flew for Other Purposes	Deletion			
GA12.J_I	Character	Purpose Description	Deletion			
GA13.1	Character	Make/Model 1	Disaggregation / Reordering	Show responses as reported for questions GA13.1 to GA13.6 (make / model and hours) in raw data section	Partial Raw General Aviation Responses: "Acft X / Pct. Hours Acft X"	Partial Raw General Aviation Responses: Lists up to 6 make models and percent of each flown by respondent during recall period. These numbers are randomly reordered.
GA13.1.A	Numeric	Make/Model 1 Hours	Same as GA13.1		Same as GA13.1	Same as GA13.1
GA13.1.B	Numeric	Make/Model 1 Engines	Deletion			
GA13.1.C	Numeric	Make/Model 1 Experimental	Deletion			
GA13.2	Character	Make/Model 2	Same as GA13.1		Same as GA13.1	Same as GA13.1
GA13.2.A	Numeric	Make/Model 2 Hours	Same as GA13.1		Same as GA13.1	Same as GA13.1
GA13.2.B	Numeric	Make/Model 2 Engines	Deletion			
GA13.2.C	Numeric	Make/Model 2 Experimental	Deletion			
GA13.3	Character	Make/Model 3	Same as GA13.1		Same as GA13.1	Same as GA13.1
GA13.3.A	Numeric	Make/Model 3 Hours	Same as GA13.1		Same as GA13.1	Same as GA13.1
GA13.3.B	Numeric	Make/Model 3 Engines	Deletion			
GA13.3.C	Numeric	Make/Model 3 Experimental	Deletion			
GA13.4	Character	Make/Model 4	Same as GA13.1		Same as GA13.1	Same as GA13.1
GA13.4.A	Numeric	Make/Model 4 Hours	Same as GA13.1		Same as GA13.1	Same as GA13.1
GA13.4.B	Numeric	Make/Model 4 Engines	Deletion			
GA13.4.C	Numeric	Make/Model 4 Experimental	Deletion			
GA13.5	Character	Make/Model 5	Same as GA13.1		Same as GA13.1	Same as GA13.1
GA13.5.A	Numeric	Make/Model 5 Hours	Same as GA13.1		Same as GA13.1	Same as GA13.1
GA13.5.B	Numeric	Make/Model 5 Engines	Deletion			
GA13.5.C	Numeric	Make/Model 5 Experimental	Deletion			
GA13.6	Character	Make/Model 6	Same as GA13.1		Same as GA13.1	Same as GA13.1
GA13.6.A	Numeric	Make/Model 6 Hours	Same as GA13.1		Same as GA13.1	Same as GA13.1
GA13.6.B	Numeric	Make/Model 6 Engines	Deletion			
GA13.6.C	Numeric	Make/Model 6 Experimental	Deletion			

Table 4: Specific Redaction Steps: General Aviation Survey (Fixed Wing) (continued)

Section B

Question	Data Type	Question Label	RedactionStrategy (Fixed Wing)	Specific Redaction Action (Fixed Wing)	New Field	Comments
GER1	Numeric	Number of Diverted to Alternate Airfield Due to Equipment Problem	NO CHANGE			
GER1.A	Character	Aircraft w/ Equipment Problem	Editing	High Unique		
GER1.B	Character	Systems Causing Diversion	Generalization / Disaggregation	Categorize systems by ATA codes	Section B: GER1B; and GER1B Other	FAA / Air Transport Association of America (ATA) Joint Aircraft System/Component Code Table Definitions; also when a system is only called out rarely, it is referred to as "Other", disaggregated and listed in Section B
GER2-A.A	Numeric	Number of Uncommanded Movement of Speedbrakes	Editing	High Unique		
GER2-A.A.1	Character	Aircraft Make/Model	Deletion			
GER2-A.B	Numeric	Number of Uncommanded Movement of Trim	NO CHANGE			
GER2-A.B.1	Character	Aircraft Make/Model	Deletion			
GER2-A.C	Numeric	Number of Uncommanded Movement of Flaps	NO CHANGE			
GER2-A.C.1	Character	Aircraft Make/Model	Deletion			
GER2-A.D	Numeric	Number of Trim System Operation Failure	Editing	High Unique		
GER2-A.D.1	Character	Aircraft Make/Model	Deletion			
GER2-A.E	Numeric	Number of Landing Gear Operation Failure	NO CHANGE			
GER2-A.E.1	Character	Aircraft Make/Model	Deletion			
GER2-A.F	Numeric	Number of Failures of Flaps to Extend or Retract	NO CHANGE			
GER2-A.F.1	Character	Aircraft Make/Model	Deletion			
GER2-A.G	Numeric	Experience malfunction or failure of any other device/system?	NO CHANGE			
GER2-A.G.1	Character	Aircraft Make/Model	Deletion			
GER2-A.G.2	Character	Specify device or system malfunction	Generalization / Disaggregation	Categorize systems by ATA codes	Section B: GER2AG2; and GER2AG2 Other	Same as GER1.B Omitted for rotary-wing respondents
GER2-H.A	Numeric	Number of Uncommanded movements of trim	N/A			Omitted for fixed-wing respondents
GER2-H.A.1	Character	Helicopter Make/Model	N/A			Omitted for fixed-wing respondents
GER2-H.B	Numeric	Number of Trim System Operation Failure	N/A			Omitted for fixed-wing respondents
GER2-H.B.1	Character	Helicopter Make/Model	N/A			Omitted for fixed-wing respondents
GER2-H.C	Numeric	Number of Landing Gear Operation Failure	N/A			Omitted for fixed-wing respondents
GER2-H.C.1	Character	Helicopter Make/Model	N/A			Omitted for fixed-wing respondents
GER2-H.D	Numeric	Number of Tail Rotor Failure	N/A			Omitted for fixed-wing respondents
GER2-H.D.1	Character	Helicopter Make/Model	N/A			Omitted for fixed-wing respondents
GER2-H.E	Numeric	Number of Hydraulic System Failure	N/A			Omitted for fixed-wing respondents
GER2-H.E.1	Character	Helicopter Make/Model	N/A			Omitted for fixed-wing respondents
GER2-H.F	Numeric	Number of Valid Transmission Warning of Potential Failure	N/A			Omitted for fixed-wing respondents
GER2-H.F.1	Character	Helicopter Make/Model	N/A			Omitted for fixed-wing respondents
GER2-H.G	Numeric	Other System Malfunction	N/A			Omitted for fixed-wing respondents
GER2-H.G.1	Character	Helicopter Make/Model	N/A			Omitted for fixed-wing respondents
GER2-H.G.2	Character	Specify device or system malfunction	N/A			Omitted for fixed-wing respondents
GER3.A	Numeric	Number of Fire, Smoke, or Fumes; Engine or Nacelle	NO CHANGE			
GER3.A_1	Character	Aircraft Make/Model	Deletion			
GER3.A_2	Numeric	Number of Fire, Smoke, or Fumes; Engine or Nacelle; Electrical	Disaggregation	Rare Event		See Table 9
GER3.B	Numeric	Number of Fire, Smoke, or Fumes; Cockpit	Editing	High Unique		
GER3.B_1	Character	Aircraft Make/Model	Deletion			
GER3.B_2	Numeric	Number of Fire, Smoke, or Fumes; Cockpit; Electrical	Editing	High Unique		
GER3.C	Numeric	Number of Fire, Smoke, or Fumes; Cargo Hold	Disaggregation	Rare Event		See Table 9
GER3.C_1	Character	Aircraft Make/Model	Deletion			
GER3.C_2	Numeric	Number of Fire, Smoke, or Fumes; Cargo Hold; Electrical	Disaggregation	Rare Event		See Table 9
GER3.D	Numeric	Number of Fire, Smoke, or Fumes; Elsewhere in Pax Comp't	NO CHANGE			
GER3.D_1	Character	Aircraft Make/Model	Deletion			
GER3.D_2	Numeric	Number of Fire, Smoke, or Fumes; Elsewhere in Pax Comp't; Electrical	Disaggregation	Rare Event		See Table 9
GER3.E	Numeric	Number of Fire, Smoke, or Fumes; Elsewhere	NO CHANGE			
GER3.E_1	Character	Aircraft Make/Model	Deletion			
GER3.E.1	Character	Specify location	Generalization / Disaggregation	Categorize systems by ATA codes	Section B: GER13E1; and GER3E1 Other	Same as GER1.B
GER4	Numeric	Number of Precautionary Engine Shutdown	Editing	High Unique		
GER4.A	Character	Aircraft Make/Model	Deletion			
GER5	Numeric	Number of Total Engine Failure	Editing	High Unique		
GER5.A	Character	Aircraft Make/Model	Deletion			
GER6	Numeric	Number of Total Loss of Electrical Power	NO CHANGE			
GER6.A	Character	Aircraft Make/Model	Deletion			

Table 4: Specific Redaction Steps: General Aviation Survey (Fixed Wing) (continued)

Section B (continued)

Question	Data Type	Question Label	RedactionStrategy (Fixed Wing)	Specific Redaction Action (Fixed Wing)	New Field	Comments
GER7	Numeric	Number of Incorrect Parts Installed	NO CHANGE			
GER7.A	Character	Aircraft Make/Model	Deletion			
GER8	Numeric	Number of Doors Opened Inadvertently; Cabin, Baggage, Cowlings	Editing	High Unique		
GER8.A	Character	Aircraft Make/Model	Deletion			
GER9	Numeric	Number of Door or Window came off Aircraft During Flight	NO CHANGE			
GER9.A	Character	Aircraft Make/Model	Deletion			
GER10	Numeric	Number of Cargo Shifts	Editing	High Unique		
GER10.A	Character	Aircraft Make/Model	Deletion			
GER11	Numeric	Number of Flights w/ Fuel Contaminated by Water	Editing	High Unique		
GER11.A	Character	Aircraft Make/Model	Deletion			
GER12	Numeric	Number of Flights w/ Incorrect Fuel Type	Disaggregation	Rare Event		See Table 9
GER12.A	Character	Aircraft Make/Model	Deletion			
GER13	Numeric	Number of Failures of Attitude Indicator or Artificial Horizon	Editing	High Unique		
GER13.A	Character	Aircraft Make/Model	Deletion			
GER13.B	Numeric	Number of Attitude Failure in IMC	NO CHANGE			
GTU1	Numeric	Number of Severe Turbulence Encounter	NO CHANGE			
GTU1.A	Numeric	Number of Severe Turbulence Encounter in IMC	Editing	High Unique		
GTU1.B	Numeric	Number of Severe Turbulence Encounter in Clear Air	NO CHANGE			
GTU1.C	Numeric	Number of Occupant Injuries	Disaggregation	Rare Event		See Table 9
GTU2	Numeric	Number of Wake Turbulence Encounter Resulting in >45 deg roll	Editing	High Unique		
GWE1	Numeric	Number of Lacked Good Wx Info while Airborne	NO CHANGE			
GWE1.A	Numeric	Number of Lacked Good Wx Info while Airborne; Non-US Arpt or Ctlr	NO CHANGE			
GWE1.B	Numeric	Number of Lacked Good Wx Info while Airborne; Involved ATIS	NO CHANGE			
GWE1.C	Numeric	Number of Lacked Good Wx Info while Airborne; Involved FSS	Editing	High Unique		
GWE1.D	Numeric	Number of Lacked Good Wx Info while Airborne; Involved Flight Watch	NO CHANGE			
GWE1.E	Numeric	Number of Lacked Good Wx Info while Airborne; Involved AWOS or ASOS	NO CHANGE			
GWE2-A	Numeric	Number of Diverted to Alternate Airfield Due to Wx	Editing	High Unique		
GWE2-H	Numeric	Number of Diverted to Alternate Airfield Due to Wx	N/A			Omitted for fixed-wing respondents
GWE3-A	Numeric	Number of Airframe Icing Affecting Performance or Control	Editing	High Unique		
GWE3-H	Numeric	Number of Airframe or Rotor Icing Affecting Performance or Control	N/A			Omitted for fixed-wing respondents
GWE4	Numeric	Number of Windshear or Microburst Encounter; >15 Knot Airspeed Chg	NO CHANGE			
GWE5-H	Numeric	Number of Loss of Tail Rotor Effectiveness Due to High Density Altitude	N/A			Omitted for fixed-wing respondents
GWE6-H	Numeric	Number of Loss of Tail Rotor Effectiveness Due to High Winds	N/A			Omitted for fixed-wing respondents
GWE7-H	Numeric	Number of Loss of Visible Horizon Due to White/Brown Out Conditions	N/A			Omitted for fixed-wing respondents
GCP1	Numeric	Number of In-Flight Passenger Distraction	Editing	High Unique		
GAC1	Numeric	Number of Bird Strike	Editing	High Unique		
GAC2	Numeric	Number of Evasive Action; >500 ft Separation	NO CHANGE			
GAC3	Numeric	Number of < 500 ft Separation	Editing	High Unique		
GGE1	Numeric	Number of Land at Location w/o Wind Indicator Device	Editing	High Unique		
GGE2	Numeric	Number of Attempt Takeoff w/ Protective Gear Attached	Editing	High Unique		
GGE3	Numeric	Number of Unplanned Aborted or Rejected Takeoff	NO CHANGE			
GGE4-A	Numeric	Number of Go Off Runway or Taxiway While Taxiing	NO CHANGE			
GGE5-A	Numeric	Number of Go Off Edge of Runway While Taking off or Landing	Editing	High Unique		
GGE6-A	Numeric	Number of Go Off End of Runway	Disaggregation	Rare Event		
GGE7-A	Numeric	Number of Inadvertently Enter an Active Runway	Editing	High Unique		
GGE8-A	Numeric	Number of Begin Takeoff on Occupied Runway	Editing	High Unique		
GGE9-A	Numeric	Number of Land on Occupied Runway	NO CHANGE			
GGE10-A	Numeric	Number of Hit Runway or Taxiway Light	Disaggregation	Rare Event		See Table 9

Table 4: Specific Redaction Steps: General Aviation Survey (Fixed Wing) (continued)

Section B (continued)

Question	Data Type	Question Label	RedactionStrategy (Fixed Wing)	Specific Redaction Action (Fixed Wing)	New Field	Comments
GGE11	Numeric	Number of Hit Animal Other Than a Bird	Disaggregation	Rare Event		See Table 9 Omitted for rotary-wing respondents
GGE12-A	Numeric	Number of Near Collision w/ Ground Vehicle	Editing	High Unique		Omitted for rotary-wing respondents
GGE12-A.A	Numeric	Number of Near Collision w/ Ground Vehicle on Ramp or Apron	Disaggregation	Rare Event		See Table 9 Omitted for rotary-wing respondents
GGE12-A.B	Numeric	Number of Near Collision w/ Ground Vehicle on Taxiway	Editing	Rare Event		See Table 9 Omitted for rotary-wing respondents
GGE12-A.C	Numeric	Number of Near Collision w/ Ground Vehicle on Runway	Editing	Rare Event		See Table 9 Omitted for rotary-wing respondents
GGE13-H	Numeric	Number of Near Collision w/ Ground Vehicle	Deletion			Omitted for fixed-wing respondents
GGE13-H.A	Numeric	Number of Near Collision w/ Ground Vehicle at an Airport (Not a Heliport)	Deletion			Omitted for fixed-wing respondents
GGE13-H.B	Numeric	Number of Near Collision w/ Ground Vehicle at a Heliport	Deletion			Omitted for fixed-wing respondents
GGE13-H.C	Numeric	Number of Near Collision w/ Ground Vehicle at Unprepared Landing Site	Deletion			Omitted for fixed-wing respondents
GGE14-A	Numeric	Number of Near Ground Collision w/ Another Aircraft	NO CHANGE			Omitted for rotary-wing respondents
GGE14-A.A	Numeric	Number of Near Ground Collision w/ Another Aircraft on Ramp or Apron	NO CHANGE			Omitted for rotary-wing respondents
GGE14-A.B	Numeric	Number of Near Ground Collision w/ Another Aircraft on Taxiway	Editing	High Unique		Omitted for rotary-wing respondents
GGE14-A.C	Numeric	Number of Near Ground Collision w/ Another Aircraft on Runway	Disaggregation	Rare Event		See Table 9 Omitted for rotary-wing respondents
GGE15	Numeric	Number of Near Ground Collision w/ Other Objects	Editing	High Unique		
GGE15.A	Character	Specify Other Objects	Generalization / Disaggregation	Categorize based on object type	GGE15A; and GGE15A disaggregated	All events classified as OTHER in associated data; events also categorized and disaggregated in Section B: structure, vehicle, debris, animal.
GAH1	Numeric	Number of Used Reserve Fuel	Editing	High Unique		
GAH2	Numeric	Number of Accepted ATC Clearance; Could Not Comply	NO CHANGE			
GAH3	Numeric	Number of Lost Sight of Visually Separated Acft	NO CHANGE			
GAH3.A	Numeric	Number of Lost Sight of Visually Separated Acft in Marginal VMC	Editing	High Unique		
GAH4	Numeric	Number of Landed without Clearance	Editing	High Unique		
GAH5	Numeric	Number of Began Takeoff Roll without Clearance	Disaggregation	Rare Event		See Table 9
GAH6	Numeric	Number of Track Deviation	NO CHANGE			
GAH7	Numeric	Number of Out-of-Balance Takeoff	NO CHANGE			
GAH8	Numeric	Number of Overweight Takeoff	Editing	High Unique		
GAH9-A	Numeric	Number of Commenced Takeoff with Improper Configuration	NO CHANGE			Omitted for rotary-wing respondents
GAH10	Numeric	Number of Unusual Attitude	NO CHANGE			
GAH11-H	Numeric	Number of Valid Low Rotor RPM Warning	Deletion			Omitted for fixed-wing respondents
GAH11-A	Numeric	Number of Stall Warning	NO CHANGE			Omitted for rotary-wing respondents
GAH12	Numeric	Number of Near Airborne Collision w/ Terrain or Obstr'n	Editing	High Unique		
GAH12.A	Numeric	Number of Near Airborne Collision w/ Terrain or Obstr'n; ATC Warning	Disaggregation	Rare Event		See Table 9
GAH12.B	Numeric	Number of Near Airborne Collision w/ Terrain or Obstr'n; Direct Observ'n	Editing	High Unique		
GAH12.C	Numeric	Number of Near Airborne Collision w/ Terrain or Obstr'n; Involved Just Wires	Disaggregation	Rare Event		See Table 9
GAH13-A	Numeric	Number of Cross Runway Threshold During Approach w/ Gear Up	Editing	Rare Event		See Table 9 Omitted for rotary-wing respondents
GAH13-A.A	Numeric	Number of Land w/ Gear Up	Disaggregation	Rare Event		See Table 9 Omitted for rotary-wing respondents
GAH14	Numeric	Number of Entered Airspace w/o Clearance	NO CHANGE			
GAH15	Numeric	Number of Lost Track of Horizon Flying Under VFR	Editing	High Unique		
GAD1	Numeric	Number of Deviated From ATC Assigned Altitude	NO CHANGE			
GAD2	Numeric	Number of Descended Below Min Safe Altitude Not Following ATC Vectors	Editing	High Unique		
GAT1	Numeric	Number of Unable Time-Critical Com with ATC	NO CHANGE			
GAT1.A	Numeric	Number of Unable Time-Critical Com with ATC; Ground	Editing	High Unique		
GAT1.B	Numeric	Number of Unable Time-Critical Com with ATC; Airborne; Terminal	NO CHANGE			
GAT1.C	Numeric	Number of Unable Time-Critical Com with ATC; Airborne; Enroute	NO CHANGE			
GAT2	Numeric	Number of Undesirably High Altitude due to ATC Clearance	NO CHANGE			
GAT3	Numeric	Number of Left Com. Frequency to get Wx	NO CHANGE			
GAT4	Numeric	Number of Missed Tx From ATC	NO CHANGE			
GAT4.A	Numeric	Number of Missed Tx Due to Wrong Frequency	Editing	High Unique		
GAT4.B	Numeric	Number of Missed Tx Due to High Cockpit Noise	Editing	High Unique		
GAT4.B.1	Numeric	Number of Missed Tx Due to Wearing a Communications Headset	Editing	High Unique		
GAT5	Numeric	Number of Received Inaccurate Info About NOTAMs	NO CHANGE			

Table 4: Specific Redaction Steps: General Aviation Survey (Fixed Wing) (continued)

Section C

Question	Data Type	Question Label	RedactionStrategy (Fixed Wing)	Specific Redaction Action (Fixed Wing)	New Field	Comments
GC1	Numeric	Number of Obtained Pre-Flight Wx Info	Editing	High Unique		
GC1.A.1	Numeric	Number of Obtained Wx Not Specific to Aviation	Editing	High Unique		
GC1.A.2	Numeric	Number of Obtained Wx Specific to Aviation	NO CHANGE			
GC1.A.3	Numeric	Number of Wx Info From Dispatcher	NO CHANGE			
GC1.A.4	Numeric	Number of Wx Info From DUATS	NO CHANGE			
GC1.A.5	Numeric	Number of Wx Info From FSS	Editing	High Unique		
GC1.A.6	Numeric	Number of Wx Info From Verbal FAA Briefings	Editing	High Unique		
GC1.A.7	Numeric	Wx Info From Other Sources	NO CHANGE			
GC1.A.7.a	Character	Other Wx Sources	Editing	Edit for explicit identification		
GC2	Numeric	Wx Source Used Most Frequently	NO CHANGE			
GC2.A	Numeric	Wx Info Understandability	Editing	High Unique		
GC2.B	Numeric	Wx Info Accuracy	Editing	High Unique		
GC2.C hours	Numeric	Time Between Wx Info Receipt and Takeoff; Hours	NO CHANGE			
GC2.C min.	Numeric	Time Between Wx Info Receipt and Takeoff; Minutes	NO CHANGE			
GC3 state 1	Character	Flew Primarily in Which State; State1	Generalization	Generalized from state to FAA region	Section B: nominalRegion	
GC3 state 2	Character	Flew Primarily in Which State; State2	Generalization	Generalized from state to FAA region	Section B: nominalRegion	
GC3 state 3	Character	Flew Primarily in Which State; State3	Generalization	Generalized from state to FAA region	Section B: nominalRegion	
GC3.1	Character	Flew Primarily in Which State; Other	Editing / Generalization	Generalization to continental region	Section B: GC03oth	
GC4	Numeric	Number of Takeoff Conducted Under VFR	Editing	High Unique		
GC5	Numeric	Apply VFR Wx Mins More Conservative Than FAA Reqmts	NO CHANGE			
GC5.A	Numeric	Minimum Miles of Visibility Required	NO CHANGE			
GC5.B	Numeric	Minimum Ceiling in Feet Required	Editing	High Unique		
GC6	Numeric	Number of Poor Wx Resulted in Losing Track of Position	NO CHANGE			
GC6.A	Numeric	Miles of Visibility	Editing	High Unique		
GC7	Numeric	Number of Experienced Spatial Disorientation Due to Wx	NO CHANGE			
GC7.A	Numeric	Number of Flight Occurred at Night	Editing	High Unique		
GC7.B	Numeric	Estimated Miles of Visibility	NO CHANGE			
GC8	Numeric	Number of Inadvertently Entered IMC While on VFR Flight	NO CHANGE			
GC8.A	Numeric	Number of Flight Occurred at Night	Editing	High Unique		
GC8.B	Numeric	How did you resolve IMC problem?	NO CHANGE			
GC8.B.1	Character	Specify how you resolved IMC problem	Editing	Edit for explicit identification		
GC9	Numeric	Number of Wx Conditions Resulted in Go-Around or Missed Approach	NO CHANGE			
GC9.A	Numeric	Number of Go-Around or Missed Approach Due to Poor Visibility	Editing	High Unique		
GC9.B	Numeric	Number of Go-Around or Missed Approach Due to High Winds	NO CHANGE			
GC10	Numeric	Number of Wx Resulted in Diverting to Alternate Landing Site	NO CHANGE			
GC10.A	Numeric	How determine weather worsening?	NO CHANGE			
GC10A.1	Character	Specify how determined weather worsening	Editing	Edit for explicit identification		
GC11	Numeric	Number of Penetrated Cloud Deck to Land Flying VFR	NO CHANGE			
GC11.A	Numeric	How did you get through the cloud deck to land?	NO CHANGE			
GC11.A.1	Character	Specify how you got through the cloud deck to land	Editing	Edit for explicit identification		
GC11.A.2	Numeric		Disaggregation	Rare Event		See Table 10
GC11.A.3	Numeric		NO CHANGE			
GC11.A.4	Numeric		NO CHANGE			
GC11.A.5	Numeric		NO CHANGE			

Table 4: Specific Redaction Steps: General Aviation Survey (Fixed Wing) (continued)

Section C (continued)

Question	Data Type	Question Label	RedactionStrategy (Fixed Wing)	Specific Redaction Action (Fixed Wing)	New Field	Comments
GC12	Numeric	Hours of Instrument Training	Generalization	Categorize as zero, unknown, highest 25%, lowest 25% and mid 50% of responses	Section C: GC12.trainingIFR	Section C categories: Zero (no instrument training), Low (lowest 25%, <= 6 hrs), Medium (mid 50%, between 6 hrs and 30 hrs), high (highest 25%, more than 30 hours), UNK (unknown).
GC13	Numeric	Hours of Training in IMC Conditions	Generalization	Categorize as zero, unknown, highest 25%, lowest 25% and mid 50% of responses	Section C: GC13.trainingIMC	Section C categories: Zero (no experience or training in IMC), Low (lowest 25%, <= 2 hrs), Medium (mid 50%, between 2 hrs and 10 hrs), high (highest 25%, more than 10 hours), UNK (unknown).
GC14Yrs	Numeric	Time Since Last Instrument Training; Years	Generalization	Categorize based on recency of training experience	Section C: GC1	Question GC14Yrs, GC14Mos and GC14Days responses used to categorize. Section C categories: LE6 = less than or equal to 6 months, LE12 = more than 6 months but less than or equal to 12 months, GT12 = greater than 12 months
GC14Mos	Numeric	Time Since Last Instrument Training; Months	Generalization	See GC14Yrs	Section C: GC1	See GC14Yrs
GC14Days	Numeric	Time Since Last Instrument Training; Days	Generalization	See GC14Yrs	Section C: GC1	See GC14Yrs
GC15	Numeric	Number of times filed an IFR Flight Plan	Editing	High Unique		
GC15.A	Numeric	Number of IMC Conditions Indicated	NO CHANGE			
GC16	Numeric	Apply IFR Wx Mins More Conservative Than FAA Reqmts	NO CHANGE			
GC16.A	Numeric	Minimum Miles of Visibility Required	Editing	High Unique		
GC16.B	Numeric	Minimum Ceiling in Feet Required	NO CHANGE			
GC17.A	Numeric	Aircraft w/ Wx Radar or Thunderstorm Equipment	NO CHANGE			
GC17.B	Numeric	Aircraft w/ Autopilot	NO CHANGE			
GC17.C	Numeric	Aircraft w/ Approved Anti-Icing Equipment	NO CHANGE			Omitted for rotary-wing respondents
GC18	Numeric	Number of Flew Instrument Approach in IMC	Editing	High Unique		
GC18.A	Numeric	IMC Approach Type Flown	NO CHANGE			
GC18.A.1	Character	Specify other approach flown	Editing	Edit for explicit identification		
GC18.B	Numeric	Approach Ceiling in Feet	NO CHANGE			
GC18.C mile	Numeric	Miles of Approach Visibility	Editing	High Unique		
GC18.C feet	Numeric	Feet of Approach Visiblity (RVR)	Editing	High Unique		
GC19	Numeric	Number of Approaches Conducted Under FAR Part 91	NO CHANGE			
GC20.A	Numeric	Aware of FAA Regulations	NO CHANGE			
GC20.B	Numeric	Number of Approach w/ Wx Conditions Below FAA Minimums	Editing	High Unique		
GC20.C	Numeric	On-site Wx Reporting at Airport	NO CHANGE			
GC20.D	Numeric	Number of Wx Above Minimums Upon Landing	Editing	High Unique		

Table 4: Specific Redaction Steps: General Aviation Survey (Fixed Wing) (continued)

Section D

Question	Data Type	Question Label	RedactionStrategy (Fixed Wing)	Specific Redaction Action (Fixed Wing)	New Field	Comments
GD1	Numeric	Confidence level in accuracy	NO CHANGE			
GD2	Numeric	Were any questions confusing, poorly worded or ambiguous?	NO CHANGE			
GD2.A_1	Character	Describe problems with questions	Editing / Disaggregation	Edit for explicit identification and list separately in random order all comments		
GD2.A_2	Character	Describe problems with questions	Editing / Disaggregation	Edit for explicit identification and list separately in random order all comments		
GD2.A_3	Character	Describe problems with questions	Editing / Disaggregation	Edit for explicit identification and list separately in random order all comments		
GD3	Numeric	Additional problems in national aviation system not asked?	NO CHANGE			
GD3.A	Character	Describe problems in national aviation system not asked	Editing / Disaggregation	Edit for explicit identification and list separately in random order all comments		
GD4	Numeric	Do you use internet at home?	NO CHANGE			
GD5	Numeric	Comments and suggestions about survey	NO CHANGE			
GD5A	Character	Describe comments and suggestions about survey	Editing / Disaggregation	Edit for explicit identification and list separately in random order all comments		

Table 5: "High-Unique" Redaction Summary for Air Carrier Safety Related Events

The below listed air carrier safety related event columns were subjected to the "high unique" rounding down redaction step described in table 2. This table lists the column number from the Air Carrier Redacted Survey Responses, a short description of the related safety event, the actual maximum number recorded in that column vs. the one posted on the website, and finally, the actual total for the column vs. the total posted on the website.

Column #	Safety Related Events	Actual	v	Posted Max*	Actual	v.	Posted Total
AD1	Altitude deviation	6	v	4	1314	v	1312
AH04	Landing w/o clearance	6	v	5	169	v	168
AH09	Hard landing	6	v	5	514	v	513
AH10	Takeoff out of CG limits	6	v	5	110	v	109
AH11	Takeoff overweight	6	v	5	147	v	146
AH12	Takeoff roll w/bad config.	4	v	3	234	v	233
AH13	Unusual attitude	7	v	5	274	v	272
AH14	Stall warning	6	v	5	336	v	335
AT1	Frequency congestion	40	v	32	21453	v	21445
AT2	Hi speed or hi alt approach	36	v	30	29364	v	29358
ER2	Hazmat damage	5	v	4	90	v	89
ER2a	Hazmat in cargo compartment	3	v	2	58	v	57
ER4.e	Uncommanded speed brake	4	v	3	70	v	69
ER4.h	Uncommanded slats	3	v	2	88	v	87
IC1A	Declined clearance change	13	v	10	2971	v	2968
IC1B2	Go-around or missed appr.	4	v	3	215	v	214
IC1B7	Landing long or fast	10	v	7	477	v	474
IC1B9	Conflict on ground	4	v	3	45	v	44
IC1B10	Other undesirable event	8	v	7	302	v	301
JD 2	Ground proximity warning	6	v	4	89	v	87

** Because of this rounding down of the unique high values, when these values are seen in their respective columns, they should be read as "X or more".*

Table 6: Rare Events: Air Carrier Section B Safety Events by Calendar Year

RecallYear	ER2.b Damage due to hazardous material in passenger compartment	ER2.c Damage due to hazardous material out of compliance with regulations	ER5.a.1 Smoke/fire/fumes in engine due to electrical wiring	ER5.c.1 Smoke/fire/fumes in cargo compartment due to electrical wiring	GE01 Going off edge of runway or taxiway while taxiing	GE02.c Collide or nearly collide with ground vehicle while your aircraft was on runway	GE05 Going off edge of runway during takeoff or landing	GE06 Going off end of runway	GE10.c Near collision with another aircraft while your aircraft was on runway	AH05 Takeoff roll without clearance	AH08 Tail strike on takeoff	AH15 Near collision with ground while airborne	AH15.a Near collision with ground while airborne, and Traffic Control brought it to pilot's attention	AH15.b Near collision with ground while airborne, and Air collision was detected through direct sighting	AH15.c Near collision with ground while airborne, and near collision was detected through GPWS or EGPWS	AH15.c.1 Near collision with ground while airborne, and near collision was detected through EGPWS
2001	1	1	1	1	1		1	1	1	1	1	1		1	1	
	1	1		1	1			1	1	1	1	1		1		
		1		1	1				1	1	1	1				
		1			1				1	1	2					
					1				1		1					
					1				1		1					
											1					
											1					
2002		1	1	1	1		1	1	1	1	1	1		1	1	1
		1	1	1	1			2	1	1	1	1		2		
		1	1		1			2	1	3	1	2				
		1	1		1				1	1	1					
		1			1				1	1						
		2			1					1						
					1											
					3											
2003		1	1	1	1		1	1	1	1	2	1	1	1		
		1	1	1	1		1	2		1	1	1		1		
		1		1	1		1			1	1	1		1		
		1			1		1			1	1	1				
		1			1		1			1	1	1				
		1			1					1	1	1				
		1								2		1				
		1														
		1														
		1														
		1														
2004		1			1	1	1			1	1	1		1	1	
					1		1			1	1	1		1	1	
					1		1			1	1	1		1		
										1		1		1		
												1				
												1				
Sum	2	23	7	8	25	1	10	10	12	24	23	20	1	12	4	1

Table 7: Rare Events: Air Carrier Section C (ICAC) Safety Events by Calendar Year

Year	IC01.b.08	IC01C_03	IC01C_04	IC01C_05	IC01C_08	IC01C_09	IC15.a.6	IC15.a.7
2001		Yes	Yes	Yes		Yes	Yes	Yes
			Yes				Yes	Yes
							Yes	Yes
							Yes	Yes
							Yes	Yes
2002	1	Yes	Yes			Yes	Yes	Yes
		Yes				Yes	Yes	Yes
							Yes	Yes
							Yes	Yes
							Yes	Yes
							Yes	Yes
							Yes	
							Yes	
2003	1		Yes		Yes	Yes	Yes	Yes
	1		Yes				Yes	Yes
	1		Yes				Yes	Yes
			Yes				Yes	Yes
							Yes	Yes
							Yes	
2004	1	Yes		Yes		Yes	Yes	Yes
	1					Yes		
	1							
Sum	7	4	7	2	1	6	20	17

Table 8: Rare Events: Air Carrier Section C (JIMDAT) Safety Events by Calendar Year

Year	JD03	JD03.b	JD26.a	JD26.b
2004	1	1	1	2
	1	1	1	1
	1	1	1	1
	1	1	1	1
	1	1	1	1
	1	1	1	1
	1	1	1	1
	1	1	1	1
	1			
	1			
	1			
	1			
Sum	12	8	8	9

Table 9: Rare Events: General Aviation Section B Safety Events by Calendar Year

RecallYr	GER03A2 Engine smoke involving electrical components	GER03C Cargo area smoke	GER03C2 Cargo area smoke involving electrical components	GER03D2 Passenger compartment area smoke involving eletrical components	GER12 Fly with wrong type of fuel	GTU1C Turbulence causing injury to an occupant	GGE06A Go off end of runway	GGE10A Collide with runway light	GGE11 Hit an animal other than bird	GGE12AA Collide with ground vehicle while aircraft was on ramp	GGE12AB Collide with ground vehicle while aircraft was on taxiway	GGE12AC Collide with ground vehicle while aircraft was on runway	GGE14AC Ground collision while aircraft was on runway	GAH05 Takeoff without ATC clearance	GAH12A Near collision brought to attention by ATC	GAH12C Near collision involving only wires	GAH13A Cross threshold with gear up	GAH13AA Cross threshold and land with gear up
2002	1	1		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
				1	1	1	1	1	1	1	1		1			1	1	
				1		1	1	1	1	1			1			3		
						1	1	1	1	1			2					
							2	1	1	1								
										2								
2003		1	1	1		1	1	1	1	2				1			1	
				1		2	1	1	1									
									1									
									1									
									1									
Sum	1	2	1	5	2	7	8	7	10	9	2	1	5	2	1	5	3	1

Table 10: Rare Events: General Aviation Section C Safety Events by Calendar Year

RecallYear	GC11A2 VFR On Top and ATC help
2002	1
2003	2
Sum	3

Part B: Air Carrier Categories

For all categories, assignments are made based on the predominant flight activities of the respondent as measured by the flight hour data he or she provides. So, for example, if a respondent indicates that she flies 60 percent of her time piloting a Medium Transport Turbofan and the remaining 40 percent piloting a Large Transport Turbofan, she would be categorized as an MED pilot.

nominalAircraftSize – Nominal assignment, size of aircraft flown during recall period

- **Widebody** – Widebody
- **Large** – Large transport
- **Medium** – Medium transport
- **Small_or_OTH**– All aircraft of known types that are not found in the WDB, LRG, or MED lists.
- **UNK** -- Unknown

nominalPropulsion – Nominal assignment, propulsion used by aircraft flown during recall period

- **Turbofan** – Turbofan or turbojet
- **Turboprop_or_OTH** – Turboprop and all other propulsion types except turbofan
- **UNK** -- Unknown

Widebody / Turbofan	A-310-320	B-747-400	B-767-700	L-1011-100	Large / Turbofan
A-300	A-310-60	B-767	B-777	L-1011-5	B707-100
A-300-20	A-310-600	B-767-10	B-777-10	L-1011-500	B707-200
A-300-200	A-330	B-767-100	B-777-100	MD-10	B707-300
A-300-40	A-330-30	B-767-2	B-777-2	MD-10-10	B707-400
A-300-400	A-330-300	B-767-20	B-777-20	MD-10-30	B-757
A-300-6	B-747	B-767-200	B-777-200	MD-11	B-757-2
A-300-60	B-747-10	B-767-3	B-777-3		B-757-20
A-300-600	B-747-100	B-767-30	B-777-30		B-757-200
A-300-B4	B-747-20	B-767-300	B-777-300		B-757-3
A-310	B-747-200	B-767-4	DC-10		B-757-30
A-310-20	B-747-200F	B-767-40	DC-10-10		B-757-300
A-310-200	B-747-30	B-767-400	DC-10-30		B-757-40
A-310-30	B-747-300	B-767-50	DC-10-40		B-757-400
A-310-300	B-747-40	B-767-500	L-1011		
A-310-32		B-767-70	L-1011-1		

B757-767
DC-8
DC-8-10
DC-8-20
DC-8-30
DC-8-40
DC-8-50
DC-8-60
DC-8-70
DC-8-73
Medium-/ Turbofan
A-319
A-319-10
A-319-100
A-319-32
A-319-320
A319-320
A-320
A-320-20
A-320-200
A-321
B-717
B-727
B-727-10
B-727-100
B-727-2
B-727-20
B-727-200
B-727-30
B-727-300
B-727-50
B-727-500
B-727-AD
B-727-ADVANCE
B-727-C
B-737
B-737-10
B-737-100
B-737-20
B-737-200
B-737-3
B-737-30
B-737-300
B-737-40
B-737-400
B-737-5
B-737-50
B-737-500
B-737-60
B-737-600
B-737-7
B-737-70
B-737-700
B-737-8
B-737-80
B-737-800
B-737-9
B-737-90
B-737-900
C-130
DC-6
DC-9
DC-9-10
DC-9-20
DC-9-30
DC-9-40
DC-9-50
DC-9-80
ELECTRA
F-100
L-100
L-382
MD-80
MD-88
MD-90
Small_or_OTH / Turbofan [all Turbofans that do not fall in WDB, LRG, or MED categories]
Small_or_OTH / Turboprop_or_OTH [turboprops and all other commercial aircraft that did not fall into one of the preceding categories]

nominalMission – Nominal assignment, aircraft mission flown during recall period

- **Passenger** – Passenger
- **Cargo_or_OTH** – Cargo and other missions such as repositioning or maintenance
- **UNK** -- Unknown

nominalDomesticInternational – Nominal assignment, type of route flown during recall period

- **Domestic**
- **International**
- **UNK --** Unknown

nominalPosition – Nominal assignment, crew position during recall period

- **Captain --** Captain
- **FirstOfficer_or_OTH –** First Officer and other (second officer, relief pilot, checkpilot, etc.)
- **UNK** -- Unknown

nominalCareerExperience – Nominal assignment, career flight hours

- **Low –** Lowest 25% -- 6000 or fewer
- **Medium –** Mid 50%
- **High –** Highest 25% - 15000 or more
- **UNK** -- Unknown

ER1.ata – Replaces free-form component references in ER1.A with high-level ATA code reference

ER4.i.ata_1 – Replaces free-form component references in ER4.i.1_1 with high-level ATA code

ER4.i.ata_2 – Replaces free-form component references in ER4.i.1_2 with high-level ATA code

ER4.i.ata_3 – Replaces free-form component references in ER4.i.1_3 with high-level ATA code

ER4.i.ata_4 – Replaces free-form component references in ER4.i.1_4 with high-level ATA code

IC2.config – Airport runway configuration

- **Single**
- **Multi-Parallel**
- **Multi-Intersecting**
- **Multi-Both** – Both parallel and intersecting runways

IC2.scale – Airport traffic volume – empirically driven

- **Light**—lightest 25% percent of airports referenced in survey
- **Medium**—middle 50% percent of airports referenced in survey
- **Heavy**—highest 25% percent of airports referenced in survey

IC3.aircraftsize – Size of aircraft flown during most recent ICAC

- **Widebody** – Widebody
- **Large** – Large transport
- **Medium** – Medium transport
- **Small_or_OTH**– All aircraft of known types that are not found in the WDB, LRG, or WDB lists.
- **UNK** -- Unknown

IC3.propulsion – Propulsion used by aircraft flown during most recent ICAC

- **Turbofan** – Turbofan or turbojet
- **Turboprop_or_OTH** – Turboprop and all other propulsion types except turbofan
- **UNK** – Unknown

JD20.recency – Recency of recurrent training experience

- **LE 6** – less than or equal to 6 months
- **LE 12** –more than 6 months but less than or equal to 12 months
- **GT 12** – greater than 12 months

JD22.recency – Recency of CFIT training experience

- **LE 6** – less than or equal to 6 months
- **LE 12** –more than 6 months but less than or equal to 12 months
- **GT 12** – greater than 12 months

JD23.recency – Recency of upset recovery training experience

- **LE 6** – less than or equal to 6 months
- **LE 12** –more than 6 months but less than or equal to 12 months
- **GT 12** – greater than 12 months

Part C: General Aviation Numeric to Categorical Conversions

Notes

(1) For all categories, assignments are made based on the predominant flight activities of the respondent as measured by the flight hour data he or she provides, or, in the case of nominalMission, as measured by the flight leg data they provide. So, for example, if a respondent indicates that she flies 60 percent of her time piloting a fixed-wing aircraft and the remaining 40 percent piloting a rotorcraft, she would be categorized as a fixed-wing pilot.

(2) Flight activity data retained are to relate to Part 135 and Part 91 operations exclusively

Flight Activity Fields

Section A

nominalExperience – Nominal assignment, lifetime flight hours

- **Low – Lowest 25% - <= 500 hours**
- **Med – Mid 50% - > 500 hours and <= 5500 hours**
- **High – Highest 25% - > 5500 hours**

nominalPosition – Nominal assignment, position flown under Parts 135/91 during recall period

- **PIC**
- **Other**
- **UNK**

nominalLight – Nominal assignment, flies mainly days only or night flights

- **Day**
- **Night**
- **UNK**

nominalFlightLength – Nominal assignment, length of flights under Parts 135/91 during recall period

- **Short – Less than 50 nautical miles**
- **Long – Greater than or equal to 50 nautical miles**

Section C

GC12class – Nominal assignment, amount of instrument training

- **Zero** – No instrument training
- **Low –** Lowest 25% -- <= 6 hours
- **Medium –** Mid 50% - > 6 hours and <= 30 hours
- **High –** Highest 25% - > 30 hours
- **UNK** -- Unknown

GC13class – Nominal assignment, amount of instrument training in IMC conditions

- **Zero** – No experience instrument training in IMC
- **Low –** Lowest 25% -- <= 2 hours
- **Medium –** Mid 50% - > 2 hours and <= 10 hours
- **High –** Highest 25% - or more - >10 hours
- **UNK** -- Unknown

GC14class – Recency of last instrument training experience

- **Low** – less than or equal to 6 months
- **Medium** –more than 6 months but less than or equal to 12 months
- **High** – greater than 12 months

Airports

Section C

Regions of country where most flying is done by respondents. Respondents provided state data in the GC3 series fields. These data were converted to FAA Regions. There are ten fields because many respondents fly in more than one region of the country as well as a free-text field for pilot responses that cut across regions. Each of the first nine field assumes a value of 1 or 0, where 1 denotes respondent flying activity in that region. The tenth field contains a semi-standardized regional or multi-regional reference such as "Lower 48 States".

- **GC3al -** Alaska
- **GC3ce -** Central
- **GC3ea** - Eastern
- **GC3gl** - Great Lakes
- **GC3ne** - New England
- **GC3nw** - Northwest Mountain
- **GC3so** - Southern
- **GC3sw** - Southwestern
- **GCwp** - Western Pacific
- **GCoth** – other region or region.