

Reporting and Safety Management

The Uses and Benefits of Voluntary Reporting Programs in Aviation

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Federal Aviation
Administration



Reporting and Safety Management

- A reflection of the **commitment** of management.
- A reflection of **engagement** of employees.
- An important source of safety assurance **information**.
- A source of **awareness** and **understanding**.
- What people see, every day, doing the work.

An Essential Part of Safety Culture



Just Culture

- Just culture does not condone deliberate or negligent behaviors – **clear standards**...
- But not a flow chart to assign when and who to blame.
- Just culture is based on **accountability**.
 - **Rearward looking** – blame and retribution vs...
 - **Forward looking**:
 - Just culture recognizes **systemic effects**.; Active **participation** in problem solving;
 - Taking **responsibility** in the process of correction.
 - “Giving Account” – admitting need for improvement.
 - Active **participation** in restoration – corrective **action**.

TWA 514

- Dec 1, 1974, flight to Washington Dulles (IAD).
- Misinterpreted approach procedure, descended early.
- CFIT, 92 fatalities.



Findings and Action

- Another U.S. airline was **aware** of the problem – **reported** in internal system.
- U.S. Congress took action and provided for funding.
- U.S. FAA initiated reporting system.
- Data management given to National Aeronautics and Space Administration (NASA) to maintain **trust** with reporters.
- **Limited immunity** to reporters.

ASRS Input

GENERAL FORM

DO NOT REPORT AIRCRAFT ACCIDENTS AND CRIMINAL ACTIVITIES ON THIS FORM.
ACCIDENTS AND CRIMINAL ACTIVITIES ARE NOT INCLUDED IN THE ASRS PROGRAM AND SHOULD NOT BE SUBMITTED TO NASA.
ALL IDENTITIES CONTAINED IN THIS REPORT WILL BE REMOVED TO ASSURE COMPLETE REPORTER ANONYMITY.

IDENTIFICATION STRIP: Please fill in all blanks to ensure return of strip.
NO RECORD WILL BE KEPT OF YOUR IDENTITY. This section will be returned to you.

TELEPHONE NUMBERS where we may reach you for further details of this occurrence.

HOME HOURS

OTHER HOURS

NAME (required)

ADDRESS/PO BOX (required)

ADDRESS LINE 2

CITY (required) STATE ZIP (required)

TYPE OF EVENT/SITUATION

DATE OF OCCURRENCE (MM/DD/YYYY)

LOCAL TIME (24 HR. CLOCK) [HH:MM]

PLEASE FILL IN APPROPRIATE SPACES AND CHECK ALL ITEMS WHICH APPLY TO THIS EVENT OR SITUATION.

REPORTER Reset	FLYING TIME (IN HOURS)
<input type="radio"/> Captain <input type="radio"/> First Officer <input type="radio"/> Pilot Flying <input type="radio"/> Pilot Not Flying <input type="radio"/> Relief Pilot <input type="radio"/> Check Airman	Total Time: <input type="text"/> hrs Last 90 Days: <input type="text"/> hrs Time in Type: <input type="text"/> hrs
<input type="radio"/> Single Pilot <input type="radio"/> Instructor <input type="radio"/> Dispatcher: <input type="text"/> yrs <input type="radio"/> Other: <input type="text"/>	

CERTIFICATES & RATINGS	ATC EXPERIENCE Reset
(Select Certificate) ▾ <input type="checkbox"/> Flight Instructor <input type="checkbox"/> Multiengine <input type="checkbox"/> Other: <input type="text"/>	<input type="radio"/> FPL <input type="radio"/> Developmental Radar <input type="text"/> yrs Supervisory <input type="text"/> yrs Non-Radar <input type="text"/> yrs Military <input type="text"/> yrs

Online

B

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IDENTIFICATION STRIP: Please fill in all blanks to ensure return of ID strip to you.
NO RECORD WILL BE KEPT OF YOUR IDENTITY. This section will be returned to you.

(SPACE BELOW RESERVED FOR ASRS DATE/TIME STAMP)

TELEPHONE NUMBERS where we may reach you for further details of this occurrence:

HOME Area No. Hours

WORK Area No. Hours

NAME

ADDRESS/PO BOX

CITY STATE ZIP

TYPE OF EVENT/SITUATION

DATE OF OCCURRENCE (MM/DD/YYYY)

LOCAL TIME (24 hr. clock) (HH:MM)


PLEASE FILL IN APPROPRIATE SPACES AND CHECK ALL ITEMS WHICH APPLY TO THIS EVENT OR SITUATION.

REPORTER	FLYING TIME (in hours)	CERTIFICATES & RATINGS	ATC EXPERIENCE
<input type="checkbox"/> Captain <input type="checkbox"/> First Officer <input type="checkbox"/> Pilot flying <input type="checkbox"/> pilot not flying <input type="checkbox"/> relief pilot <input type="checkbox"/> check airman	Total Time <input type="text"/> hrs Last 90 Days <input type="text"/> hrs Time in Type <input type="text"/> hrs	<input type="checkbox"/> Single Pilot <input type="checkbox"/> Instructor <input type="checkbox"/> Trainee <input type="checkbox"/> Dispatcher: <input type="text"/> yrs <input type="checkbox"/> Other: <input type="text"/>	<input type="checkbox"/> FPL <input type="checkbox"/> Developmental radar <input type="text"/> yrs non-radar <input type="text"/> yrs supervisory <input type="text"/> yrs military <input type="text"/> yrs
AIRSPACE	CONDITIONS / WEATHER ELEMENTS	LIGHT / VISIBILITY	ATC / ADVISORY SVC.
<input type="checkbox"/> Class A <input type="checkbox"/> Class B <input type="checkbox"/> Class C <input type="checkbox"/> Class D	<input type="checkbox"/> Class E <input type="checkbox"/> Class G <input type="checkbox"/> Special Use <input type="checkbox"/> TFR	<input type="checkbox"/> VMC <input type="checkbox"/> IMC <input type="checkbox"/> Mixed <input type="checkbox"/> Marginal	<input type="checkbox"/> fog <input type="checkbox"/> hail <input type="checkbox"/> haze/smoke <input type="checkbox"/> icing <input type="checkbox"/> rain
	<input type="checkbox"/> snow <input type="checkbox"/> thunderstorm <input type="checkbox"/> turbulence <input type="checkbox"/> windshear <input type="checkbox"/> other: <input type="text"/>	<input type="checkbox"/> dawn <input type="checkbox"/> daylight <input type="checkbox"/> Ceiling <input type="text"/> feet <input type="checkbox"/> Visibility <input type="text"/> miles <input type="checkbox"/> RVR <input type="text"/> feet	<input type="checkbox"/> night <input type="checkbox"/> dusk <input type="checkbox"/> Tower <input type="checkbox"/> TRACON <input type="checkbox"/> ATC Facility Name: <input type="text"/>
AIRCRAFT 1		AIRCRAFT 2	
Your Aircraft Type (Make/Model) (e.g. B737, Not "N#", "F1#", etc.): <input type="text"/>		Operating FAR Part: <input type="text"/>	
Operator: <input type="checkbox"/> air carrier <input type="checkbox"/> air taxi <input type="checkbox"/> corporate		Other Aircraft: <input type="text"/>	
<input type="checkbox"/> military <input type="checkbox"/> FBO <input type="checkbox"/> government		<input type="checkbox"/> air carrier <input type="checkbox"/> air taxi <input type="checkbox"/> corporate	
<input type="checkbox"/> fractional <input type="checkbox"/> FBO <input type="checkbox"/> government		<input type="checkbox"/> fractional <input type="checkbox"/> FBO <input type="checkbox"/> government	
<input type="checkbox"/> other: <input type="text"/>		<input type="checkbox"/> other: <input type="text"/>	
Mission: <input type="checkbox"/> passenger <input type="checkbox"/> personal		<input type="checkbox"/> cargo/freight <input type="checkbox"/> training	
<input type="checkbox"/> ferry <input type="checkbox"/> other: <input type="text"/>		<input type="checkbox"/> passenger <input type="checkbox"/> cargo/freight <input type="checkbox"/> ferry <input type="checkbox"/> other: <input type="text"/>	
Flight Plan: <input type="checkbox"/> VFR <input type="checkbox"/> IFR		<input type="checkbox"/> SVFR <input type="checkbox"/> DVFR	
<input type="checkbox"/> none		<input type="checkbox"/> VFR <input type="checkbox"/> IFR <input type="checkbox"/> SVFR <input type="checkbox"/> DVFR <input type="checkbox"/> none	
Flight Phase: <input type="checkbox"/> taxi <input type="checkbox"/> parked <input type="checkbox"/> takeoff <input type="checkbox"/> initial climb		<input type="checkbox"/> climb <input type="checkbox"/> cruise <input type="checkbox"/> descent <input type="checkbox"/> initial approach	
<input type="checkbox"/> final approach <input type="checkbox"/> missed/GAR <input type="checkbox"/> landing <input type="checkbox"/> other: <input type="text"/>		<input type="checkbox"/> taxi <input type="checkbox"/> parked <input type="checkbox"/> takeoff <input type="checkbox"/> initial climb	
<input type="checkbox"/> climb <input type="checkbox"/> cruise <input type="checkbox"/> descent <input type="checkbox"/> initial approach		<input type="checkbox"/> final approach <input type="checkbox"/> missed/GAR <input type="checkbox"/> landing <input type="checkbox"/> other: <input type="text"/>	

Mail In




Database Search



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How To Search:



Step 1: Click  to add search items. Note: Make sure your Pop-up Blocker is off.

Step 2: In "Current Search Items" section, select "Click Here" in a statement and choose items from lookup window.




Date & Report Number

-  **Report Number** (ACN) was [\[number\]](#)
-  **Date of Incident** was between [\[date\]](#) and [\[date\]](#)



Place

-  **Location** was [\[identifier\]](#)
-  **State** was [\[abbreviation\]](#)






Environment

-  **Flight Conditions** were [\[conditions\]](#)
-  **Lighting** was [\[conditions\]](#)
-  **Weather** was [\[element\]](#)







Person

-  **Reporter Organization** was [\[type\]](#)
-  **Reporter Function** was [\[position\]](#)


Aircraft

-  **Federal Aviation Regs** (FAR) Part was [\[regulation\]](#)
-  **Flight Plan** was [\[type\]](#)
-  **Flight Phase** was [\[phase\]](#)
-  **Make/Model** was [\[aircraft type\]](#)
-  **Mission** was [\[operation\]](#)

Event Assessment

-  **Event Type** was [\[anomaly\]](#)
-  **Detector** was [\[equipment/human\]](#)
-  **Primary Problem** was [\[most prominent factor\]](#)
-  **Contributing Factors** were [\[problem areas\]](#)
-  **Human Factors** (since 6/09) were [\[factor\]](#)
-  **Result** was [\[consequence\]](#)

Text: Narrative / Synopsis

-  **Text** contains [\[words\]](#)

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Search is empty.

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ASRS Take-Aways

- The need for **mutual awareness**.
- The need for **information sharing** and communication.
- The need for **trust** in reporting.

Aviation Safety Action Program (ASAP)

- Information to **Action**.
- First trials in mid 1990s.
- Internal to airline.
- **Limited immunity** to reporters.
- **Event Review Committee (ERC):**
 - Employee representation (Union)
 - Regulator (FAA)
 - Company
- **ERC determines root cause and designs corrective action.**

ASAP Details

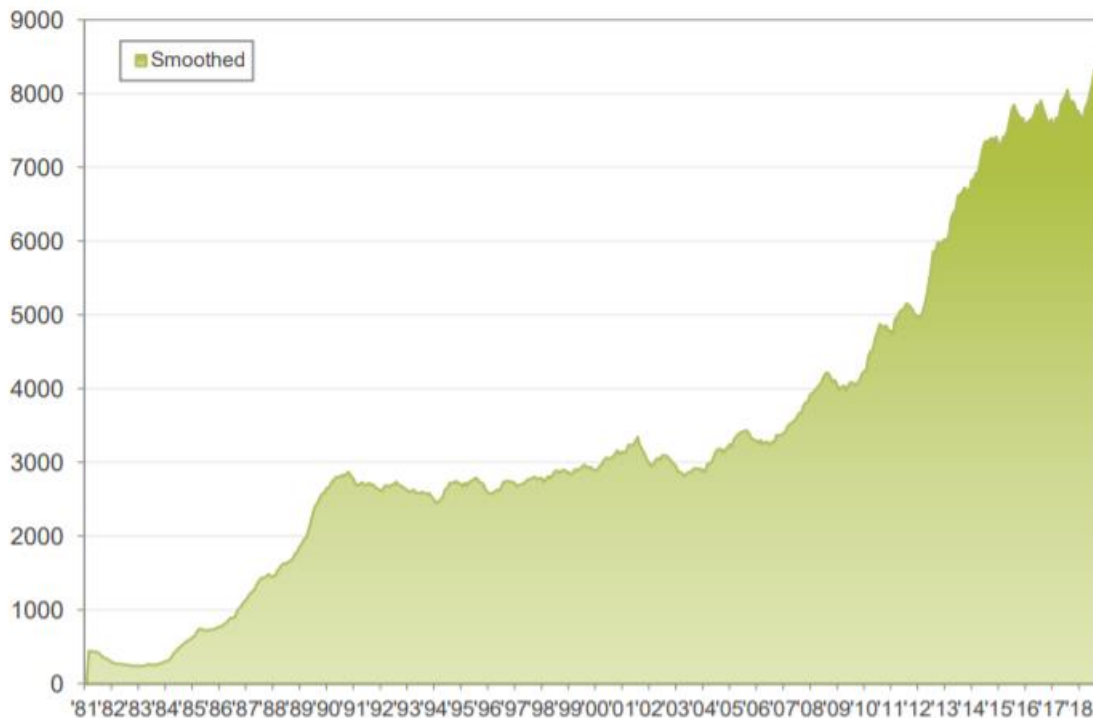
- ASAPs are approved for specific **employee groups** to ensure understanding of issues.
 - Pilots
 - Maintenance technicians
 - Dispatchers
 - Flight Attendants
 - Load Planners
 - Ground service personnel
- ASAPs may be **integrated** into operator's **SMS**.

ASAP Today

- **Number of programs:**
 - 284 operators have ASAPs
- **Additional reporting to ASRS and ASIAs:**
 - **Collective information** across the system
 - Voluntary transfer of de-identified data ASAP->ASRS
 - Special studies by ASIAs/MITRE
- **ATSAP: reporting in FAA Air Traffic Organization.**
 - Similar process as ASAP
- **ACSF joint ASAP for small operators.**

ASRS Report Intake

Monthly Report Intake
(January 1981 – December 2018)

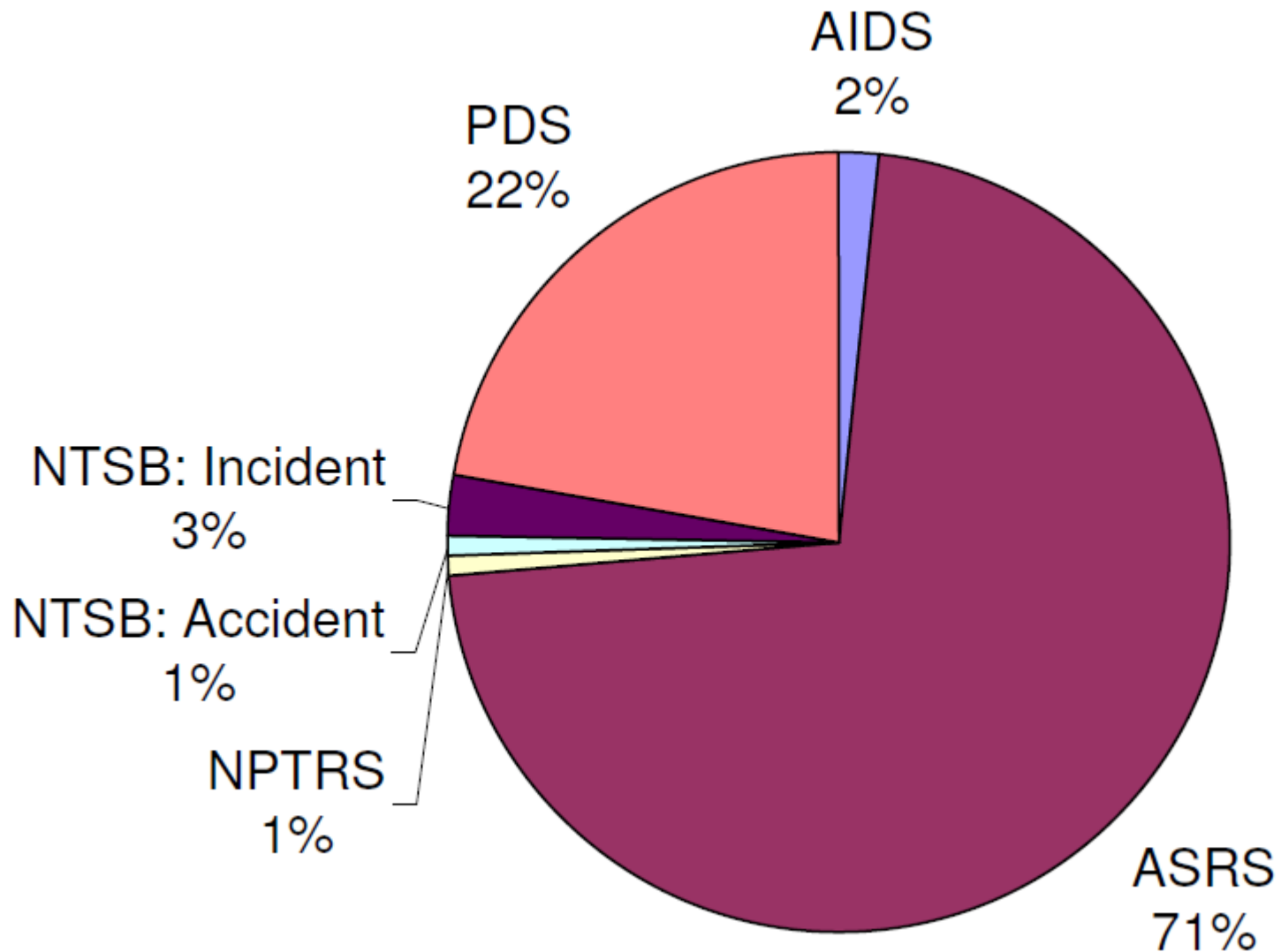


- Total Program Report Intake = **1,625,738**
- Total Report Intake for 2018 = **99,010**
- Averaging **8,251** reports per month, **396** per working day

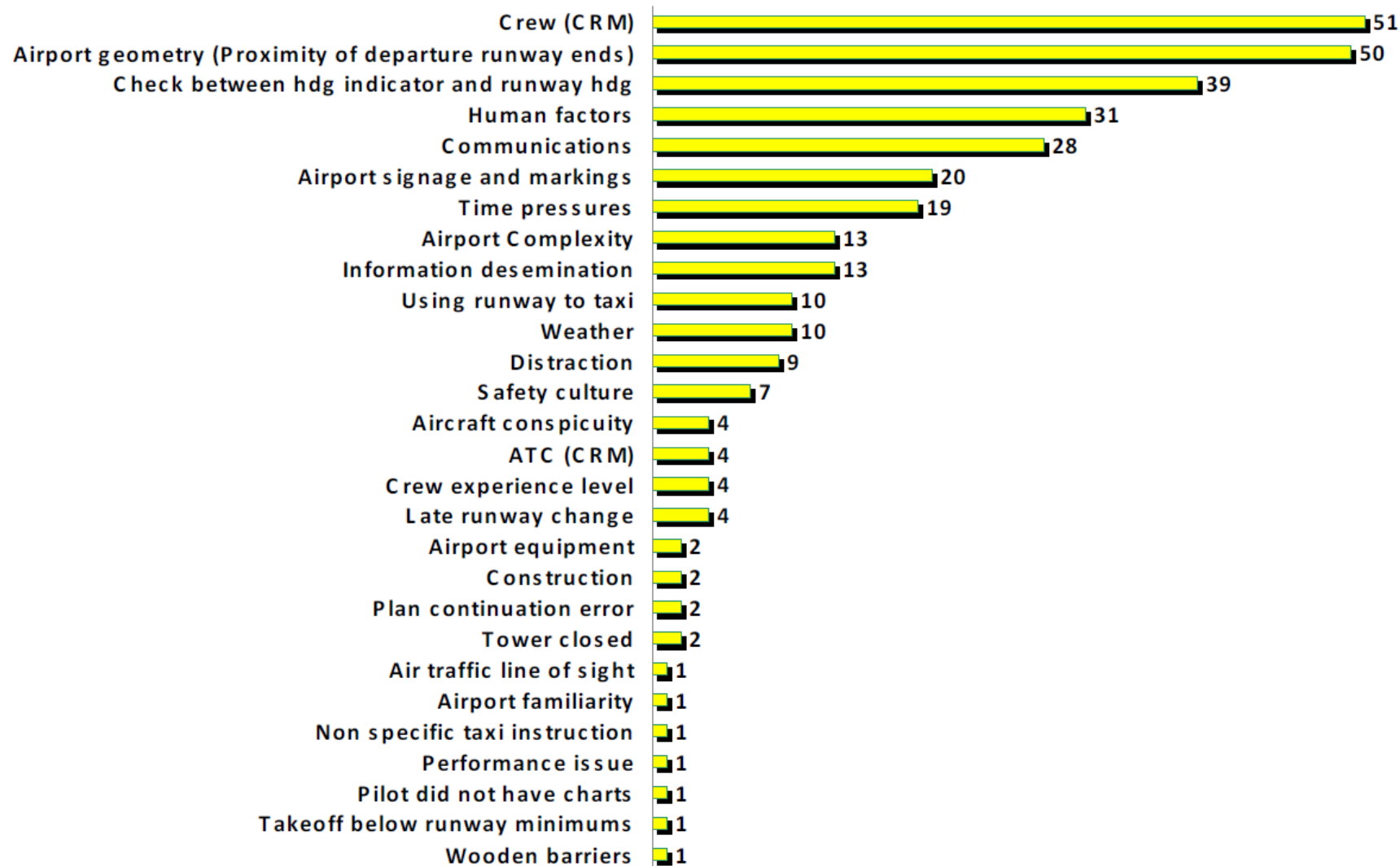
ASAP Take-Aways

- A path to **action**.
- Focus on **service provider's** organization.
- Increasing **empowerment**, and **engagement**.
- Involvement of **subject matter expertise**.
- **Commitment** on the part of:
 - Regulator
 - Company Management
 - Employees

Example: Comparing Data Sources



Sample Study: Wrong Runway



Reporting in SMS

- **SMS Safety Assurance - meeting expectations:**
 - **Monitoring:** Looking out for change
 - **Auditing** and Evaluation: verifying performance according to design
 - **Investigation:** Assessing failures and non-compliance
- **Employee reporting: Filling gaps in expectations.**

FAA SMS Reporting Requirements

- SMS is required of U.S. airlines operating under 14 CFR part 121.
- A **voluntary program** is offered to service providers that are not required to have SMS.
- **SMSVP Standard** is identical to the regulation.
- The FAA SMS rule requires a **confidential employee reporting system**.
- ASAPs may be used to satisfy this requirement for affected employee groups.

Voluntary Disclosure Reporting Program

- **VDRP for operators' compliance issues.**
- **Provides for:**
 - Reporting
 - Tracking
 - Problem Resolution
- **Several operators are testing use of SMS processes.**
- **Interfaces between VDRP and ASAP being considered.**



FAA Compliance Program

- **Focus** on identifying root causes and **effective problem solving**.
- **Engagement** of operators as active participants.
- Alternative to enforcement for those **willing and able** to return to effective compliance.
- Extension of **just culture** and open information exchange.
- FAA retains **enforcement option** where necessary.



Summary Take-Aways

- **Commitment of Airlines and Regulators to:**
 - Reporting **systems** and promotion
 - **Just culture** for reporters
 - **Engagement** of employees
 - **Action** on identified hazards
- **Involvement of subject matter **expertise**.**
- **Information **communication** and **sharing**:**
 - **Within** Airlines
 - **Across** Airlines
 - **Among** States

“Carelessness and overconfidence are more dangerous than deliberately accepted risk”
Wilbur Wright, 1901

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Wilbur Wright gliding, 1901
Photographs: Library of Congress

