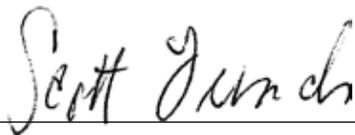


Call to Action Summary Report 2015 (Phase 1)

The recommendations gathered and presented in this report will be provided to all Call to Action participants from industry, labor, and government. Each responsible Line of Business (LOB) or Industry Organization has identified a point-of-contact (POC) to develop a corresponding Action and Implementation Plan to include mitigations and a timeline. Once complete, a Phase 2 report will be generated for approval by the respective LOBs. Approved plans will be published, and the recommendations will be tracked by the Runway Safety Group within Safety and Technical Training (AJI-14).



07/30/15



Scott French
Runway Safety Program Manager
ATO Safety and Technical Training

Date



RUNWAYSAFETY
Call to Action

Overview

The Runway Safety Call to Action (C2A) convened on June 24, 2015, with 108 representatives from industry, labor, and government. The “Call” was summoned by the Federal Aviation Administration (FAA) Administrator, Michael Huerta, and was a follow-up to the 2007 Call to Action Safety Summit. Here, the Summit established a five-point, short-term Call to Action Plan that was completed, while the mid- and long-term Call to Action Plans involving technology improvements are either complete or are now in their final stages of deployment. The campaign, which steadily achieved its goal of reducing every type of runway incursion, focused on pilot training, technology, airport signage, and communications to meet its outlined objectives.

Since this time, Category A and B runway incursions, events that represent the highest risk of a collision, have dropped by 44 percent since the last Call to Action. Seven years have passed since the last runway collision at a major airport and nine years since the last fatal runway collision. Despite this long-standing trend, A and B events have recently begun to increase.



RUNWAY SAFETY Call to Action

Strategy

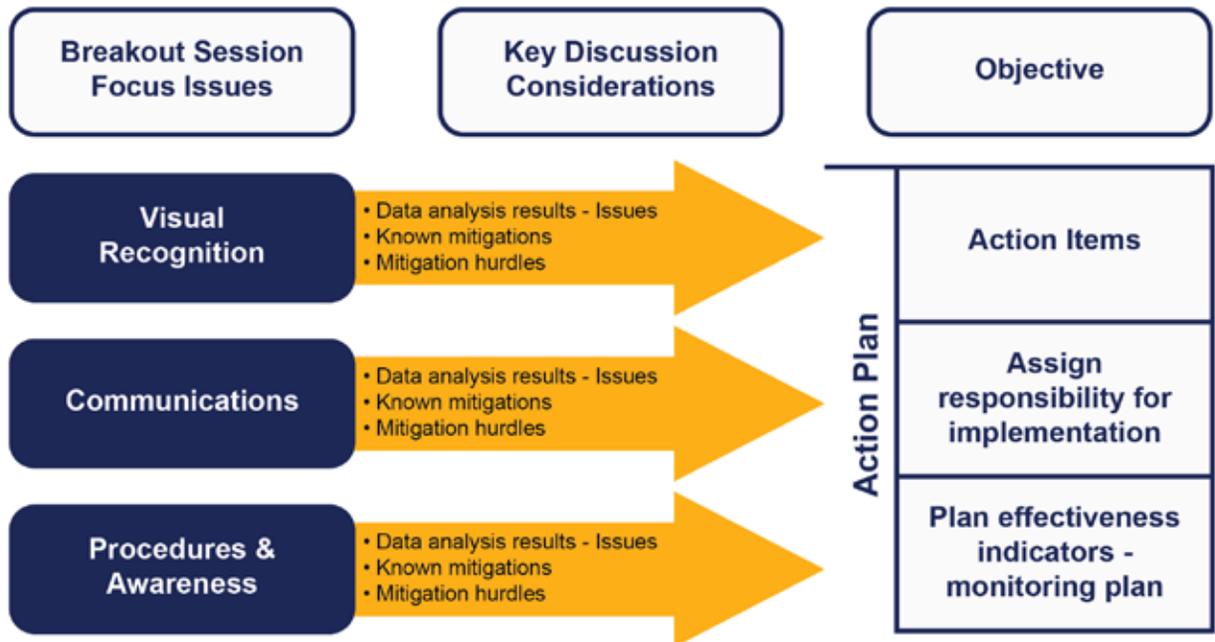
The 2015 C2A attendees were organized into three breakout sessions and charged to devise short-, mid-, and long-term corrective action recommendations. Each team (Visual, Communication, and Procedures & Awareness) followed the same basic premise: to review all relevant runway safety data available and reach a group consensus on the best corrective actions. The MITRE Corporation analyzed 1,782 records from the FAA Runway Safety Database. In addition to characteristics identified in Mandatory Occurrence Reports (MORs), investigator remarks from Flight Standards Service and Airports often provide insights into the cause of an incident or the sequence of events that led to the incursion. Further, all participants were

asked to review the issues identified in the data analysis and be prepared to discuss and develop:

- Known mitigations, best practices, and new innovations
- Recommended corrective actions
- Mitigations and any hurdles to implementation
- Responsible points-of-contact (POCs)
- A monitoring plan that can quantify the effectiveness of each action



Figure 1. Call to Action Workflow





RUNWAY SAFETY
===== Call to Action =====

The Path to Action

TEAM LEADER: MICHAEL O'DONNELL
DIRECTOR OF AIRPORTS SAFETY AND STANDARDS

Visual

TEAM LEADER: JOHN BARBAGALLO
DEPUTY DIRECTOR FLIGHT STANDARDS

Communication

TEAM LEADER: JONATHAN GRAY
DIRECTOR FOR SAFETY (A)

Procedures & Awareness

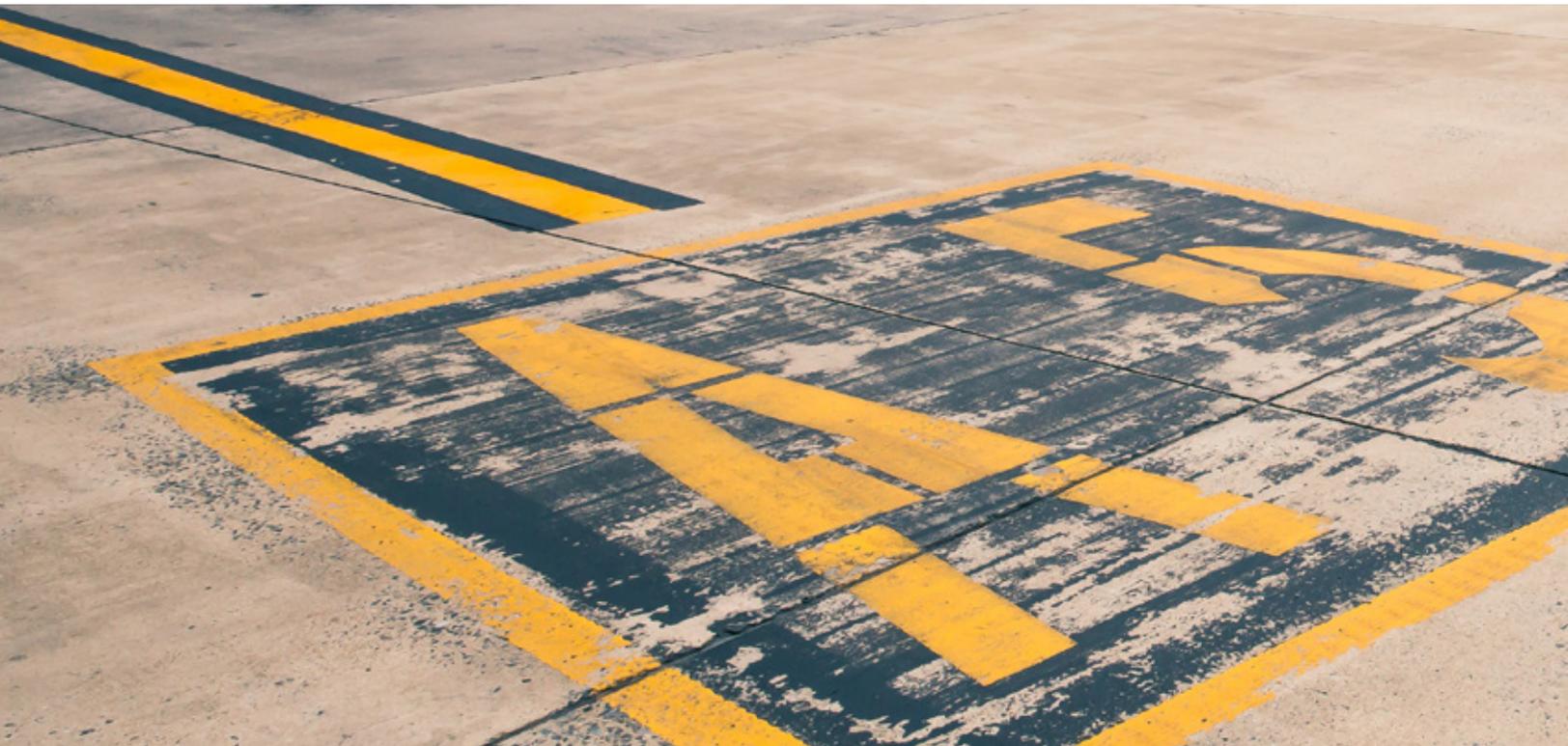
Visual

Team Leader | **Michael O'Donnell**
Director of Airports Safety and Standards

The Visual Markings breakout team focused on one problem that continues to exist within the general aviation (GA) community: pilots who ignore or miss runway signage and markings. Data analysis indicated that pilots with 1,500 hours of flight time or more are primarily involved in these runway incursions. Most of these incidents involved inadequate or missing signage, recent airfield modifications or construction, and confusing geometry.

In nearly every incident, pilots reported having received training in lighting and signage. Non-home-base airport events account for many of the identified incursions. And in nearly 90 percent of incidents, the crew was not using a moving map with own-ship position at the time of the incident. In 25 percent of cases, pilots reported they did not review the airfield diagram prior to taxi.

The group's recommendations centered on education, technology, and human factors research. Participants in the session suggested the FAA and the Aircraft Owners and Pilots Association (AOPA) work together to educate AOPA's members about situational awareness and share information and lessons learned with the GA community in the same way that the FAA and commercial airlines share information through the InfoShare program. Biennial pilot training on runway markings and signage should continue to be emphasized and eventually mandated by the FAA, as well as remedial training for pilots who violate the rules.



Communication

Team Leader | John Barbagallo
Deputy Director Flight Standards

The Communications group focused its attention on three issues:

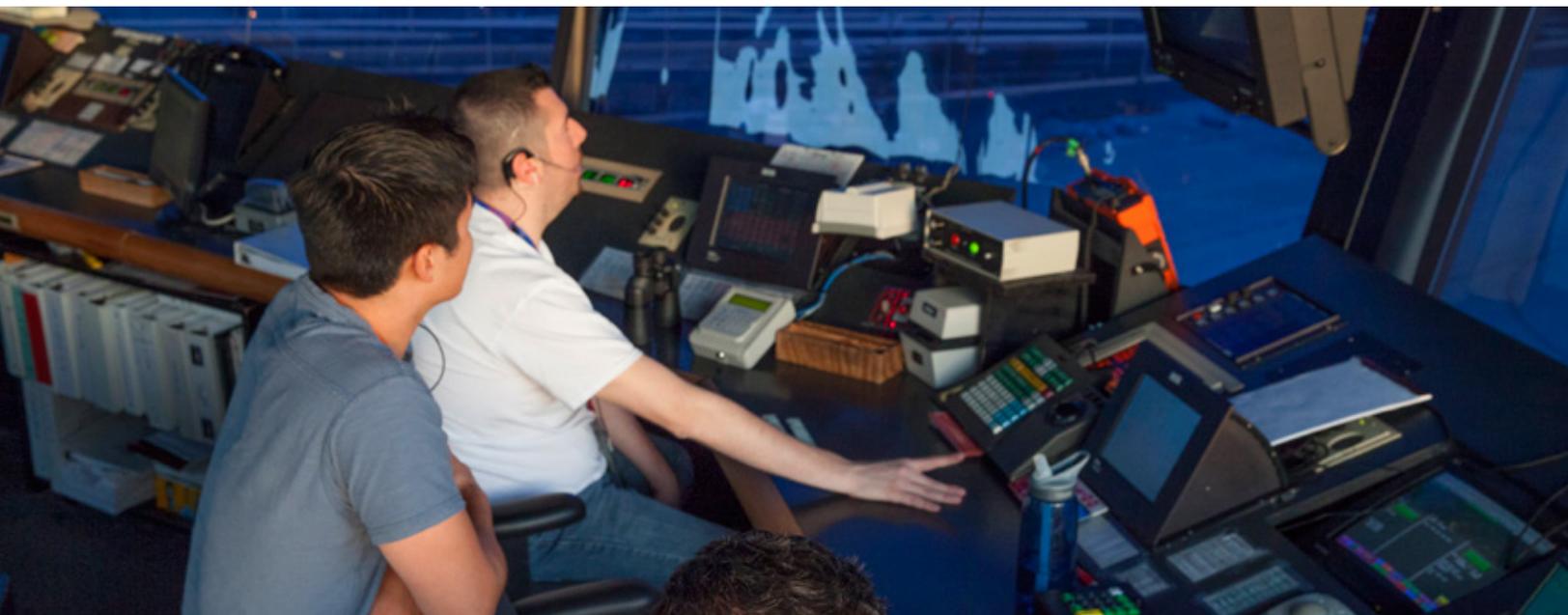
1. The familiarity of pilots and vehicle drivers with their given airports
2. The relationships between pilots and controllers
3. Deficiencies in airport communications

MITRE research showed that communications issues were predominant in 149 records, and the factors associated with communications-related incidents were not isolated to any one causal area. Pilots continue to mistake the intended recipient of some communications and to commit read-back errors. These incidents are not limited to inexperienced pilots; a large percentage of the records can be attributed to pilots with more than 1,500 hours. Further, the events are not prevalent in specific airports or airport types. In nearly every case where the pilot provided a response, the pilot did not ask for clarification. In 28 percent of cases, pilots reported a congested radio frequency. And in 10 percent of cases,

pilots admitted that they did not “clearly understand the taxi instruction.”

More than 500 events from the MITRE study were associated with Airport Surface Detection Equipment – Model X, or ASDE-X, installations. For those incidents, there were fewer cases where communications was cited as a contributing factor, suggesting that ASDE-X may have played a role in reducing communications errors, which, in turn, reduces the overall rate of incursions.

To increase airport familiarity, the communications breakout group proposed that the FAA and the aviation industry develop ways for pilots and vehicle drivers to alert air traffic control if they are new to an airport or still learning its surface layout. Also recommended was the formation of a working group to identify best practices in communications. The working group would then develop training, and finally, review current orders, the Aeronautical Information Manual (AIM), and other relevant materials to suggest appropriate changes and updates.



Procedures & Awareness

Team Leader | Jonathan Gray
Director for Safety (A)

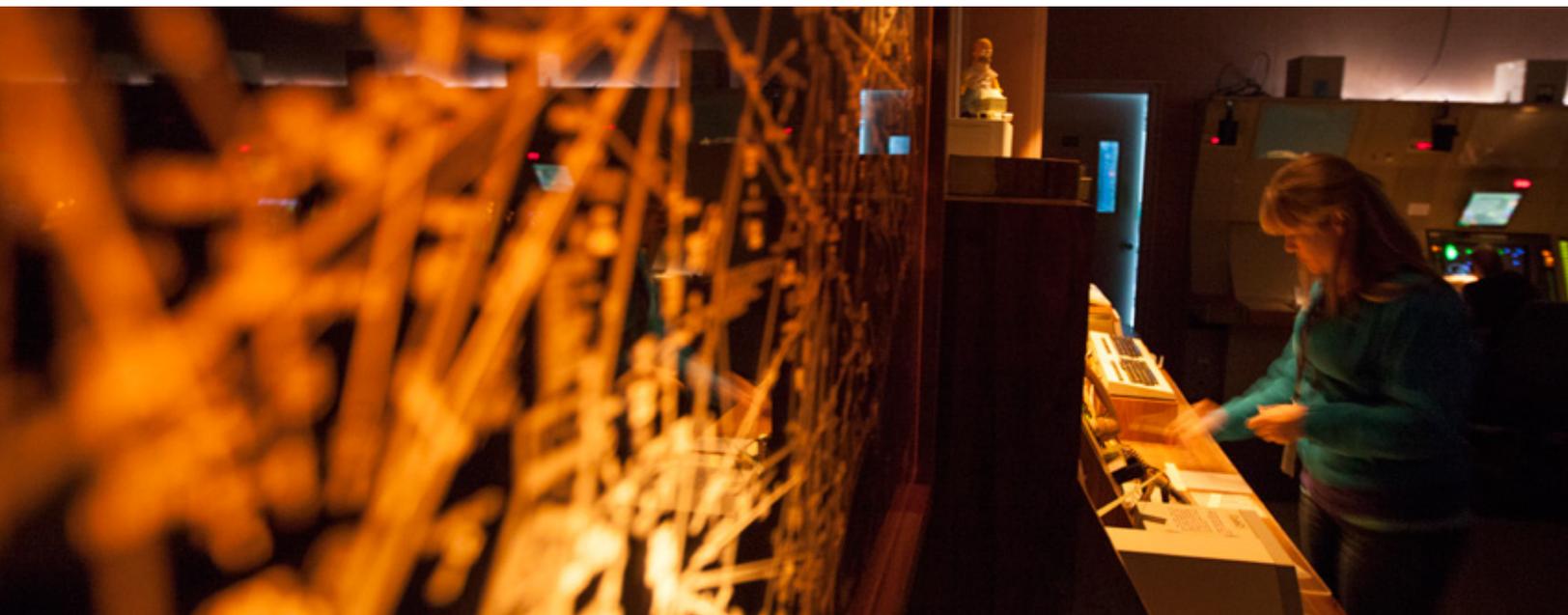
In the Procedures & Awareness breakout session, participants considered safety risks caused by pilot distraction, memory failure, expectation bias, multitasking, and inattention during clearance delivery.

More than 260 events reviewed by MITRE indicated that procedures and awareness factors played a role. A review of investigation narratives confirms that, in a significant number of cases, pilots get lost on the airport surface or are taking wrong turns due to distractions or inattentiveness. Here again, a large number of cases are associated with experienced pilots, including Part 121 operations.

Within the subset of incidents involving aircraft taxiing out for departure, the effects of inattention to procedure and distraction appear to be even greater, as indicated by the larger percentage of narratives categorized for awareness or flagged for pilot distraction. This could be the result of the limited time available to complete tasks during short taxi routes. In cases where information is

provided during the ground movement phase, incident rates are three times as likely to occur during taxi out. In 40 percent of cases, pilots reported a distraction in the cockpit at the time of incident.

Experienced pilots again are equally susceptible: 55 percent of incidents involved pilots with more than 1,500 hours. Pilots reported they did not review the airfield diagram prior to taxi 25 percent of the time. Another 25 percent of the time, pilots reported feeling rushed. Additionally, lack of sleep played a role, with hours since awakening showing to be less than five in 30 percent of the cases that were analyzed. Additionally, the group suggested that an expansion in the use of technology for speech recognition should also be considered.





RUNWAYSAFETY
===== Call to Action =====

Recommendations

Visual

Communication

Procedures & Awareness

Visual

CORRECTIVE ACTION RECOMMENDATION	MITIGATIONS
 1. CONDUCT STUDIES	Conduct Human Factors studies (also refer to previous studies and research) to include location of signs, line of sight, familiarity with the airport environment, and possible distractions
 2. PERIODIC/BI-ANNUAL MANDATED GA PILOT TRAINING ON SIGNS AND MARKINGS/AND SURFACE SITUATIONAL AWARENESS	Develop FAA web-based semi-annual training on marking and signing familiarity for pilots
 3. TAXI CONFORMANCE MONITORING	Convey audible taxi instructions/alerts electronically using available technology such as GPS in cockpit
 4. OUTREACH AND EDUCATION	Share readily available information with industry partners to be communicated to their members for awareness and education
 5. FURTHER RESEARCH/ DATA ANALYSIS AND POST EVENT COMMUNICATIONS BETWEEN FAA AND INDUSTRY	AVP to share information within FAA and outside FAA
 6. FOCUSED OUTREACH	Collaborate with industry (i.e. AOPA, flights schools) to provide educational resources; Pilot Controller Unions, similar to Partnership for Safety; general briefing on Call to Action meeting as part of PFS monthly webinar; continue FFAST outreach; get information to the field for timely dissemination
 7. INCREASE EXPANSION AND UTILIZATION	Determine where expansion would be most beneficial Explore existing/alternative technology
 8. CONTINUE RESEARCH AND EXPLORE TECHNOLOGIES	Safely incorporate LED technology in to the NAS
 9. EXPAND NOTAMS	Collaborate with industry to expand to all airports

Communication

CORRECTIVE ACTION RECOMMENDATION	MITIGATIONS
 <p>1. DEVELOP GUIDANCE AND AWARENESS</p>	<p>Develop guidance on the methodology for an operator to inform ATC that a pilot/driver is unfamiliar with the airport</p> <p>Develop an awareness campaign to publicize new guidance to all operators/controllers</p> <p>Incorporate resulting guidance into AIM, training courses, etc.</p>
 <p>2. ENHANCE OPERATOR AND CONTROLLER RELATIONSHIPS</p>	<p>Schedule “familiarization” meetings between operators/controllers at Core 30 airports</p> <p>Expand operator/controller familiarization meetings to regional and local towered airports</p> <p>Create a national working group to meet annually and act as public/private advocate for the effort</p>
 <p>3. ESTABLISH A WORKING GROUP AND DEVELOP TRAINING/CHANGES</p>	<p>Establish a Runway Safety Communications Working Group to review “best practices” and make recommendations for formalizing where appropriate</p> <p>Develop training and familiarization as necessary</p> <p>Amend orders, AIM, Code of Federal Regulations (CFR), etc., as necessary to formalize changes</p>

Procedures & Awareness

CORRECTIVE ACTION RECOMMENDATION	MITIGATIONS
 <p>1. CROPD Implement CROPD voice recognition version (speech only without context information)</p>	<p>Reduce Take offs and Landings on Closed Runways</p> <p>Implement one CROPD per service area</p> <p>Track each instance of CROPD alerts</p>
 <p>2. CROPD Continue to develop the CROPD technology by implementing additional requirements</p>	<p>Incorporate additional surveillance information from other systems, such as flight plan information, i.e. include context information and surveillance input from ASDE-X</p>
 <p>3. ELECTRONIC FLIGHT STRIPS</p>	<p>Evaluate NAS-wide implementation of Advanced Electronic Flight Strips (AEFS)</p>
 <p>4. AURAL AWARENESS FOR GA AND GROUND VEHICLE OPERATORS</p>	<p>Implement the RIWS requirement to give vehicle driver an audible alert</p>

Procedures & Awareness *(continued)*

CORRECTIVE ACTION RECOMMENDATION	MITIGATIONS
 <p>5. PROCEDURES TO ADDRESS AIRPORT GEOMETRY ISSUES</p>	<p>Develop procedures to avoid direct access/ entrances to runways (violates existing airport design criteria) and address RIM and other RSAT recommendations</p> <p>Airport Construction Advisory Council (ACAC) – identify others, i.e. construction monitoring, coordination with local ATC</p> <p>Improve runway construction NOTAMS and the corresponding data to address current processing shortfalls</p>
 <p>6. FREQUENCY PROCEDURES</p>	<p>Review common protocols for dual frequency concerning military aircraft</p>
 <p>7. ATC MEMORY AIDS</p>	<p>Establish a Memory Aids Working Group</p> <p>Determine if there is safety enhancement by performing an independent and/or recurring review of memory aid effectiveness</p>
 <p>8. PILOT MEMORY AIDS</p>	<p>Evaluate memory aids for pilots</p> <p>Mandate at least one or two pilots to be “heads up” during taxi</p> <p>Train/practice for “recovery unusual situations,” (i.e., the Boise Airport incident)</p>
 <p>9. WORKGROUP TO EVALUATE TAXI INSTRUCTIONS</p>	<p>Evaluate 2007 Call to Action response for explicit taxi instructions</p> <p>Review paragraph 3-7-2 of 7110.65 on taxi and ground movement and add specificity and reduce information into easily remembered segments</p>
 <p>10. HOLD SHORT TAXI INSTRUCTIONS</p>	<p>Coordinate with ANG</p> <p>Evaluate automated methods to exchange Hold Short taxi instructions</p>
 <p>11. TOWER/MAINTENANCE COMMUNICATION</p>	<p>Require facilities at non-Part 139 airports to enter into a Letter of Agreement with their airport operator</p> <p>Safety Risk Management Document (SRMD) complete and Advisory Circular update is in progress</p>
 <p>12. GA CAMPAIGN</p>	<p>Evaluate the need to implement this program across the NAS (Western Service Area FFAST has implemented something similar to this)</p>
 <p>13. FATIGUE – CONTROLLERS/PILOTS</p>	<p>Conduct an assessment for factors associated with fatigue and Human Factors and its relationship to runway incursions</p> <p>Recommend corrective actions, as necessary</p>



RUNWAYSAFETY
===== Call to Action =====

Next Steps

With more than 53.8 million arrivals and departures annually, the National Airspace System (NAS) is the busiest air traffic environment in the world. The day-long focus on runway safety in June 2015 is part of a continuum of steps to demonstrate the FAA's commitment to its objective of reducing conditions that give rise to surface events.

The recommendations gathered and presented in this report will be provided to all Call to Action participants from industry, labor, and government. Each responsible line of business (LOB) or industry organization will identify a POC to develop a corresponding Action and Implementation Plan, to include mitigations and a timeline. Once complete, the plans should be submitted to the Runway Safety Group and will be tracked via the Runway Safety Tracking System. By using this tool, all POCs will be able to view their progress. The Runway Safety Group will coordinate quarterly updates with all POCs.

As recommendations from the Runway Safety Call to Action Plan are implemented, the goals of formulating a collaborative action plan and roadmap to develop runway safety solutions will be achieved. With the advent and maturation of NextGen, the NAS continues to become more complex. New technologies mean that the risk of new hazards is inevitable. We must continue to actively prepare for these challenges. Only with continuous improvement and faithful monitoring activities can we expect to provide the global leadership for which the FAA is known.



RUNWAY SAFETY
Call to Action

Appendix A: Visual

Visual

CORRECTIVE ACTION RECOMMENDATION FROM 6/24/15 BREAKOUT SESSION	MITIGATIONS	TIMELINE* (SHORT/MID/LONG)	RESPONSIBLE LINE OF BUSINESS OR INDUSTRY ORGANIZATION	POINT OF CONTACT
 <p>1. CONDUCT STUDIES Determine why people bypass signs and markings</p>	Conduct Human Factors studies (also refer to previous studies and research) to include location of signs, line of sight, familiarity with the airport environment, and possible distractions	MID to LONG	FAA, MITRE, Volpe, Pegasus	AJI (Jason Demagalski)
 <p>2. PERIODIC/BI-ANNUAL MANDATED GA PILOT TRAINING ON SIGNS AND MARKINGS/AND SURFACE SITUATIONAL AWARENESS Remedial training for pilots who had a runway safety event</p>	Develop FAA web-based semi-annual training on marking and signing familiarity for pilots	SHORT to MID	AFS	AFS-800 (Vince Fagan)
 <p>3. TAXI CONFORMANCE MONITORING Convey audible taxi instructions/alerts available technology, such as electronically GPS in cockpit</p>	Convey audible taxi instructions/alerts electronically using available technology such as GPS in cockpit	LONG	NextGen	ANG (Matt Royston)
 <p>4. OUTREACH AND EDUCATION Sharing error code data from events</p>	Share readily available information with industry partners to be communicated to their members for awareness and education	SHORT	ATO Runway Safety/ ARP, AFS, Industry	AJI (Chad Brewer) AOPA (Hunter Stonehouse)
 <p>5. FURTHER RESEARCH/DATA ANALYSIS AND POST EVENT COMMUNICATIONS BETWEEN FAA AND INDUSTRY Provide a recurring forum to collaboratively share lessons learned information for the general aviation community</p>	AVP to share information within FAA and outside FAA	SHORT to MID	AVP/GAJSC (General Aviation Joint Steering Committee)	AVP (Wendell Griffin)

* **Short-Term:** By the end of FY16 (9/30/2016) **Mid-Term:** By the end of FY17 (9/30/2017) **Long-Term:** By the end of FY18 and beyond (9/30/18 and beyond)

Visual

CORRECTIVE ACTION RECOMMENDATION FROM 6/24/15 BREAKOUT SESSION	MITIGATIONS	TIMELINE* (SHORT/MID/LONG)	RESPONSIBLE LINE OF BUSINESS OR INDUSTRY ORGANIZATION	POINT OF CONTACT
 <p>6. FOCUSED OUTREACH Informational flyers in GA area or FBOs regarding websites/special events and construction</p>	Collaborate with industry (i.e. AOPA, flights schools) to provide educational resources; Pilot Controller Unions, similar to Partnership for Safety; general briefing on Call to Action meeting as part of PFS monthly webinar; continue FAAST outreach; get information to the field for timely dissemination	SHORT	ATO Safety — FAAST/AFS/Regions and Industry	AJI (Chad Brewer) AOPA (Hunter Stonehouse)
 <p>7. INCREASE EXPANSION AND UTILIZATION Expand utilization of surveillance and alerting systems such as runway status lights to more airports and increase utilization</p>	Determine where expansion would be most beneficial Explore existing/alternative technology	SHORT to MID	NextGen, PMO, ARP, ATO	ANG (Matt Royston)
 <p>8. CONTINUE RESEARCH AND EXPLORE TECHNOLOGIES Continue LED research and explore new lighting technologies</p>	Safely incorporate LED technology in to the NAS	LONG	AVS Colby Johnson ARP, ATO, LED, Symposium Working Group, NextGen	AVS (Colby Johnson)
 <p>9. EXPAND NOTAMS Expand airfield construction graphic NOTAMs</p>	Collaborate with industry to expand to all airports	MID (to begin the collaboration) LONG (to expand to all airports)	Airport Construction Advisory Council	AJI (Rally Caparas)

* **Short-Term:** By the end of FY16 (9/30/2016) **Mid-Term:** By the end of FY17 (9/30/2017) **Long-Term:** By the end of FY18 and beyond (9/30/18 and beyond)



RUNWAYSAFETY
===== Call to Action =====



Appendix B: Communication

Communication

CORRECTIVE ACTION RECOMMENDATION FROM 6/24/15 BREAKOUT SESSION	MITIGATIONS	TIMELINE* (SHORT/MID/LONG)	RESPONSIBLE LINE OF BUSINESS OR INDUSTRY ORGANIZATION	POINT OF CONTACT
 1. DEVELOP GUIDANCE AND AWARENESS Pilot or vehicle driver is unfamiliar with airport	Develop guidance on the methodology for an operator to inform ATC that a pilot/driver is unfamiliar with the airport	SHORT	FAA (AFS-800 lead, ATO, ARP), AOPA, ALPA, AAAE, NATCA, PASS	AFS-800 (Joe Forresto)
	Develop an awareness campaign to publicize new guidance to all operators/controllers	MID	AOPA (lead), ALPA, AAAE, FAA (ATO, ARP, AFS), NATCA, PASS	AOPA (George Perry)
	Incorporate resulting guidance into AIM, training courses, etc.	LONG	FAA (ATO lead), ARP, AFS, NATCA, PASS	AFS-800 (Joe Forresto)
<i>Comments regarding Pilot or Vehicle Driver is Unfamiliar with Airport:</i>	<p><i>This recommendation stemmed from perceived operator reluctance to inform ATC on frequency that they were unfamiliar and/or inexperienced with ground operations at that airport. Recommendation seeks to provide a way for operator to notify controller in advance to be cognizant of inexperienced operator (such as remarks in flight plan, telephone call to tower, etc.).</i></p> <p><i>First step is to settle on accepted method for all operators to transmit this information in advance. Second step is to publicize and encourage use of new capability. Third step is to incorporate resulting practices/guidance into more permanent guidance documents/training courses.</i></p>			

* **Short-Term:** By the end of FY16 (9/30/2016) **Mid-Term:** By the end of FY17 (9/30/2017) **Long-Term:** By the end of FY18 and beyond (9/30/18 and beyond)

Communication

CORRECTIVE ACTION RECOMMENDATION FROM 6/24/15 BREAKOUT SESSION	MITIGATIONS	TIMELINE* (SHORT/MID/LONG)	RESPONSIBLE LINE OF BUSINESS OR INDUSTRY ORGANIZATION	POINT OF CONTACT
 2. ENHANCE OPERATOR AND CONTROLLER RELATIONSHIPS	Schedule “familiarization” meetings between operators/controllers at Core 30 airports	SHORT	ALPA (lead), FAA (ATO), NATCA, PASS, ARP, AAAE, AFS	ALPA Jeff Wait
	Expand operator/controller familiarization meetings to regional and local towered airports	MID	ALPA (lead), FAA (ATO), AOPA, NATCA, PASS, ARP, AAAE, AFS	ALPA Jeff Wait
	Create a national working group to meet annually and act as public/private advocate for the effort	LONG	FAA (ATO), ALPA, AOPA, NATCA, PASS, ARP, AAAE	AJI-14 (Scott French)
<i>Comments regarding Enhance Operator and Controller Relationships:</i>	<i>This recommendation grew primarily from recognition that controllers are generally unfamiliar with workload and pacing inside the cockpits of various makes/models of aircraft and operators corporate SOPs. Conversely, pilots are often unfamiliar with organization of controller workload/concerns in the tower. Loss of FAM program cited as significantly increasing this gap. Short of fully re-instituting FAM program, recommendation was to facilitate gatherings of operators/controllers to specifically discuss complications caused by certain requests/actions of each party. To the extent possible, “ride along” programs for ATC personnel and tower cab visits for operators should be facilitated by this group.</i>			

* **Short-Term:** By the end of FY16 (9/30/2016) **Mid-Term:** By the end of FY17 (9/30/2017) **Long-Term:** By the end of FY18 and beyond (9/30/18 and beyond)

Communication

CORRECTIVE ACTION RECOMMENDATION FROM 6/24/15 BREAKOUT SESSION	MITIGATIONS	TIMELINE* (SHORT/MID/LONG)	RESPONSIBLE LINE OF BUSINESS OR INDUSTRY ORGANIZATION	POINT OF CONTACT
 3. ESTABLISH A WORKING GROUP AND DEVELOP TRAINING/CHANGES Deficiencies in airport communications	Establish a Runway Safety Communications Working Group to review “best practices” and make recommendations for formalizing where appropriate	SHORT	FAA (ATO) lead, NATCA, ALPA, AOPA, ARP, PASS, AFS, AAAE	FAA (ATO) (Maurice Hoffman) NATCA (Robert Utley)
	Develop training and familiarization as necessary	MID	ALPA, AOPA, FAA (ATO), ARP, PASS, AFS, AAAE	ALPA (Jeff Wait) AOPA (George Perry) AJI-14 (Scott French)
	Amend orders, AIM, CFR, etc., as necessary to formalize changes	LONG	FAA (ATO), ALPA, AOPA, ARP, PASS, AFS, AAAE	AJI-14 (Scott French)
<i>Comments regarding Deficiencies in Airport Communications:</i>	<i>This recommendation resulted from a recognition that there already existed multitudes of “best practices,” published and unpublished, that likely could produce improvements in runway safety if vetted and codified into more formal guidance. Fully considering the various ideas suggested was beyond the capability of the breakout group due to time constraints of the Call to Action agenda. As conceived, this tiger team would be chartered specifically to collect all these best practices, fully vet each for possible incorporation into more formal guidance, and make recommendations into what level of guidance each should be incorporated. Follow-on work involves publication of approved recommendation and incorporation into appropriate guidance material.</i>			

* **Short-Term:** By the end of FY16 (9/30/2016) **Mid-Term:** By the end of FY17 (9/30/2017) **Long-Term:** By the end of FY18 and beyond (9/30/18 and beyond)



RUNWAYSAFETY
===== Call to Action =====



Appendix C: Procedures & Awareness

Procedures & Awareness

CORRECTIVE ACTION RECOMMENDATION FROM 6/24/15 BREAKOUT SESSION	MITIGATIONS	TIMELINE* (SHORT/MID/LONG)	RESPONSIBLE LINE OF BUSINESS OR INDUSTRY ORGANIZATION	POINT OF CONTACT
 <p>1. CROPD Implement CROPD voice recognition version (speech only without context information)</p>	<p>Reduce Take offs and Landings on Closed Runways Implement one CROPD per service area Track each instance of CROPD alerts</p>	MID	ATO, AJT, AJM	Valerie Lee
 <p>2. CROPD Continue to develop the CROPD technology by implementing additional requirements</p>	<p>Incorporate additional surveillance information from other systems, such as flight plan information, i.e. include context information and surveillance input from ASDE-X</p>	LONG	ATO, AJM	Valerie Lee
 <p>3. ELECTRONIC FLIGHT STRIPS Advance technology with the implementation of electronic flight strips across the NAS</p>	<p>Evaluate NAS-wide implementation of Advanced Electronic Flight Strips (AEFS)</p>	MID	ATO (AJV-8), PMO	Larry Beck
 <p>4. AURAL AWARENESS FOR GA AND GROUND VEHICLE OPERATORS Promote technologies similar to ForeFlight, i.e. Runway Incursion Warning System (RIWS) (low-cost GPS system), ADS-B Squitter, Geofencing</p>	<p>Implement the RIWS requirement to give vehicle driver an audible alert</p>	SHORT	ARP, AFS	Tim McClain
 <p>5. PROCEDURES TO ADDRESS AIRPORT GEOMETRY ISSUES Improve construction planning and geometry</p>	<p>Develop procedures to avoid direct access/ entrances to runways (violates existing airport design criteria) and address RIM and other RSAT recommendations</p> <p>ACAC – identify others, i.e. construction monitoring, coordination with local ATC (Need more information)</p> <p>Improve runway construction NOTAMS and the corresponding data to address current processing shortfalls</p>	MID	ATO, ARP, ACAC, ACI, AAEE	Freddie James

* **Short-Term:** By the end of FY16 (9/30/2016) **Mid-Term:** By the end of FY17 (9/30/2017) **Long-Term:** By the end of FY18 and beyond (9/30/18 and beyond)

Procedures & Awareness

CORRECTIVE ACTION RECOMMENDATION FROM 6/24/15 BREAKOUT SESSION	MITIGATIONS	TIMELINE* (SHORT/MID/LONG)	RESPONSIBLE LINE OF BUSINESS OR INDUSTRY ORGANIZATION	POINT OF CONTACT
 6. FREQUENCY PROCEDURES Evaluate the use of dual frequency by military aircraft	Review common protocols for dual frequency concerning military aircraft	MID	ATO (AJV-8), DOD, AFS	Larry Beck
 7. ATC MEMORY AIDS Establish a requirement to review memory aid efficacy on an annual basis	Establish a Memory Aids Working Group Determine if there is safety enhancement by performing an independent and/or recurring review of memory aid effectiveness	SHORT	ATO Memory Aids Working Group (AJV-8)	Larry Beck
 8. PILOT MEMORY AIDS Evaluate memory aids for pilots and make changes where needed; possibly establish an ongoing process to monitor the efficacy of the memory aid	Evaluate memory aids for pilots Mandate at least one or two pilots to be “heads up” during taxi Train/practice for “recovery unusual situations,” (i.e., the Boise Airport incident)	SHORT	AFS, ATO Memory Aids Working Group (AJV-8), AOA, ALPA	Larry Beck

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Procedures & Awareness

CORRECTIVE ACTION RECOMMENDATION FROM 6/24/15 BREAKOUT SESSION	MITIGATIONS	TIMELINE* (SHORT/MID/LONG)	RESPONSIBLE LINE OF BUSINESS OR INDUSTRY ORGANIZATION	POINT OF CONTACT
 <p>9. WORKGROUP TO EVALUATE TAXI INSTRUCTIONS Current taxi instructions: the lack of progressive taxi instructions; the use of the phrase “via” instead of “turn left, turn right”; large & complex taxi instructions are confusing, hard to remember, and invite error; lack of specificity and/or heightened awareness around hot spots</p>	<p>Evaluate 2007 Call to Action response for explicit taxi instructions</p> <p>Review paragraph 3-7-2 of 7110.65 on taxi and ground movement and add specificity and reduce information into easily remembered segments</p>	SHORT	ATO (AJV-8), AFS	Larry Beck
 <p>10. HOLD SHORT TAXI INSTRUCTIONS Evaluate use of NextGen Technologies e.g. Data Communications (DATACOM), Electronic Flight Strips</p>	<p>Coordinate with ANG</p> <p>Evaluate automated methods to exchange Hold Short taxi instructions</p>	LONG	ATO (AJT), ANG	Larry Beck/ Ron Singletary
 <p>11. TOWER/MAINTENANCE COMMUNICATION Evaluate current standards and improve where needed</p>	<p>Require facilities at non-Part 139 airports to enter into a Letter of Agreement with their airport operator</p> <p>Safety Risk Management Document (SRMD) complete and Advisory Circular update is in progress</p>	SHORT	ATO (AJW), ARP	Ragaey Mansour/ Freddie James
 <p>12. GA CAMPAIGN Evaluate GA turn off-tune in type campaign</p>	<p>Evaluate the need to implement this program across the NAS (Western Service Area FFAST has implemented something similar to this)</p>	SHORT	AOPA, AFS, Industry	Paul Deres
 <p>13. FATIGUE — CONTROLLERS/PILOTS</p>	<p>Conduct an assessment for factors associated with fatigue and Human Factors and its relationship to runway incursions</p> <p>Recommend corrective actions, as necessary</p>	MID	ATO, AFS	Jason Demagalski

* **Short-Term:** By the end of FY16 (9/30/2016) **Mid-Term:** By the end of FY17 (9/30/2017) **Long-Term:** By the end of FY18 and beyond (9/30/18 and beyond)

Acronyms

A

AAAE	American Association of Airport Executives
ACAC	Airport Construction Advisory Council
ACI	Airports Council International
ADS-B	Automatic Dependent Surveillance Broadcast
AEFS	Advanced Electronic Flight Strips
AFS	Flight Standards Service
AFS-800	General Aviation and Commercial Division
AIM	Aeronautical Information Manual
AJI	Safety and Technical Training
AJM	Office of Program Management
AJT	Air Traffic Services
AJW	Technical Operations
AJV	Mission Support Services
ALPA	Air Line Pilots Association
ANG	NextGen
AOA	Airport Operations Area
AOPA	Aircraft Owners and Pilots Association
ASDE-X	Airport Surface Detection Equipment – Model X
ARP	Office of Airports
ATC	Air Traffic Control
ATO	Air Traffic Organization
AVP	Office of Accident Investigation and Prevention
AVS	Aviation Safety

C

CFR	Code of Federal Regulations
CROPD	Closed Runway Operation Prevention Device
C2A	Runway Safety Call to Action

D

DOD	Department of Defense
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F

FAA	Federal Aviation Administration
FAM	Familiarization
FAAST	FAA Safety Team
FBO	Fixed Base Operators

G

GA	General Aviation
GAJSC	General Aviation Joint Steering Committee
GPS	Global Positioning System

L

LED	Light-Emitting Diode
LOB	Line of Business

M

MOR	Mandatory Occurrence Report
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N

NAS	National Airspace System
NATCA	National Air Traffic Controllers Association
NextGen	Next Generation Air Transportation System
NOTAM	Notices to Airmen

P

PASS	Professional Aviation Safety Specialists
PFS	Partnership for Safety
PMO	Program Management Organization
POC	Point-of-Contact

R

RIM	Runway Incursion Mitigation
RIWS	Runway Incursion Warning System
RSA	Runway Safety Area
RSAT	Runway Safety Action Teams

S

SRMD	Safety Risk Management Document
SOP	Standard Operating Procedures



RUNWAY SAFETY
===== Call to Action =====

Federal Aviation Administration
Air Traffic Organization
Safety and Technical Training
800 Independence Avenue SW
Washington, DC 20591