



OUR SAFETY MANAGEMENT SYSTEM AT WORK

Mitigating Altitude Deviations

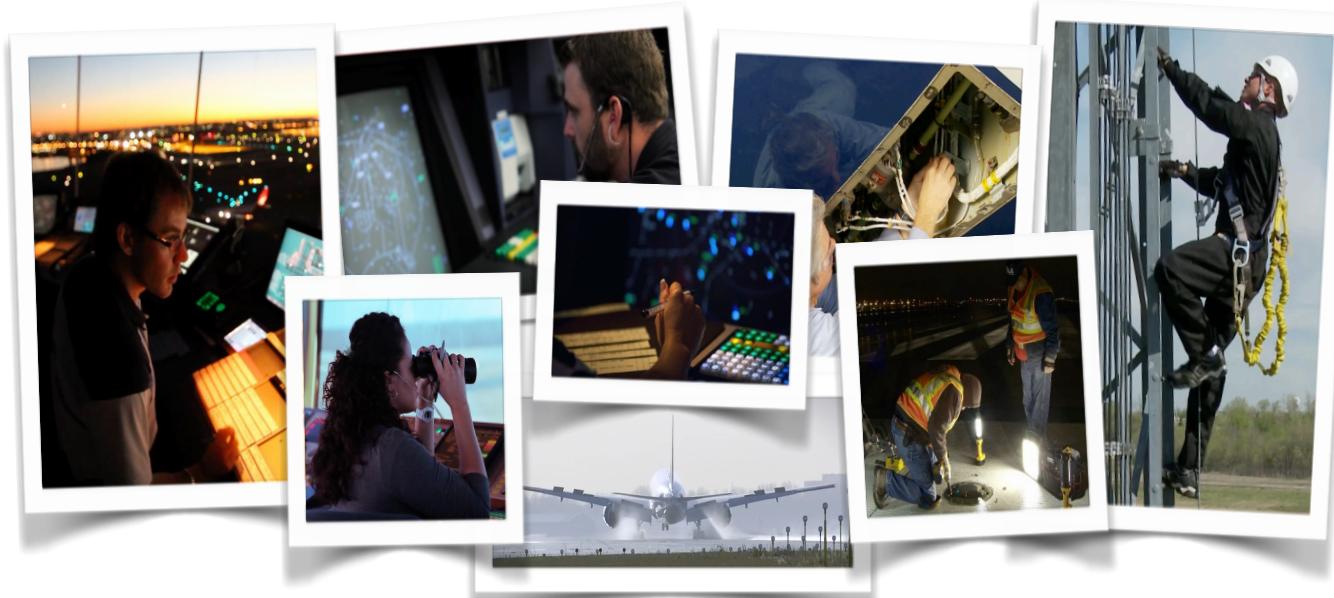


MEASURING SUCCESS



We measure success by the number of things we fix.

~~FIXING PROBLEMS HAPPENS LOCALLY~~



We must empower employees
to solve their own safety risks.

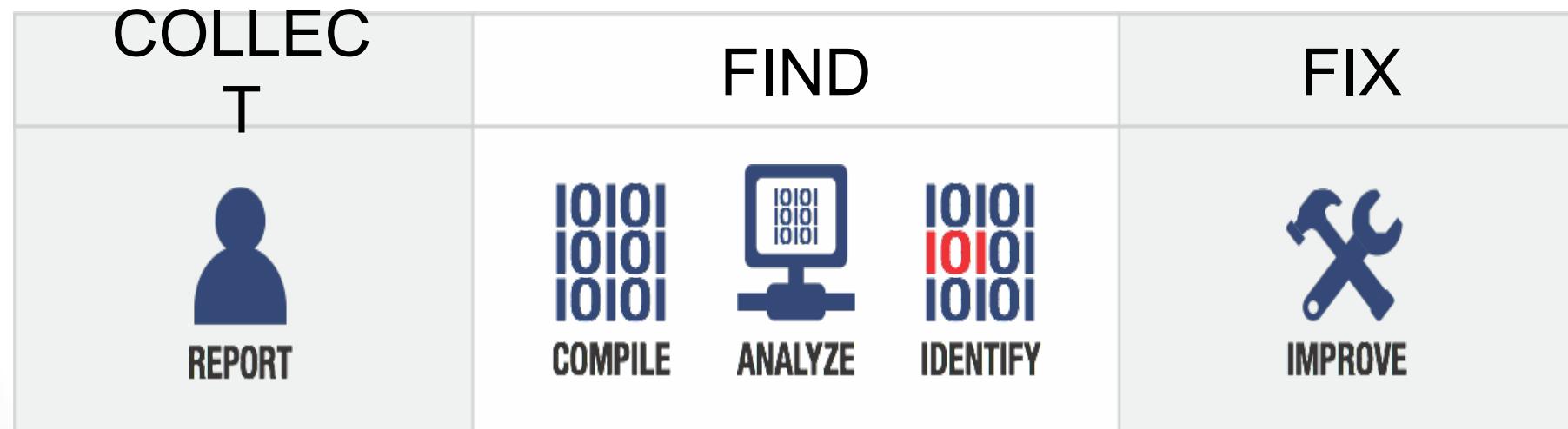


PROACTIVE SAFETY

OUR SAFETY MANAGEMENT SYSTEM



THE SAFETY MANAGEMENT SYSTEM



THE SAFETY MANAGEMENT SYSTEM

COLLECT	FIND			FIX
 REPORT	 COMPILE	 ANALYZE	 IDENTIFY	 IMPROVE
OR  PFS  RS 	VR  QC  FRM 	QA  RS  CISP 	PFS  CISP  FRM 	QC  TOP  FRM  RT 

GIVE EMPLOYEES THE MEANS TO ENGAGE



Partnership
for Safety



Voluntary Reporting
Programs



Confidential Information Prioritized Hazards
Share Program



to Mitigate





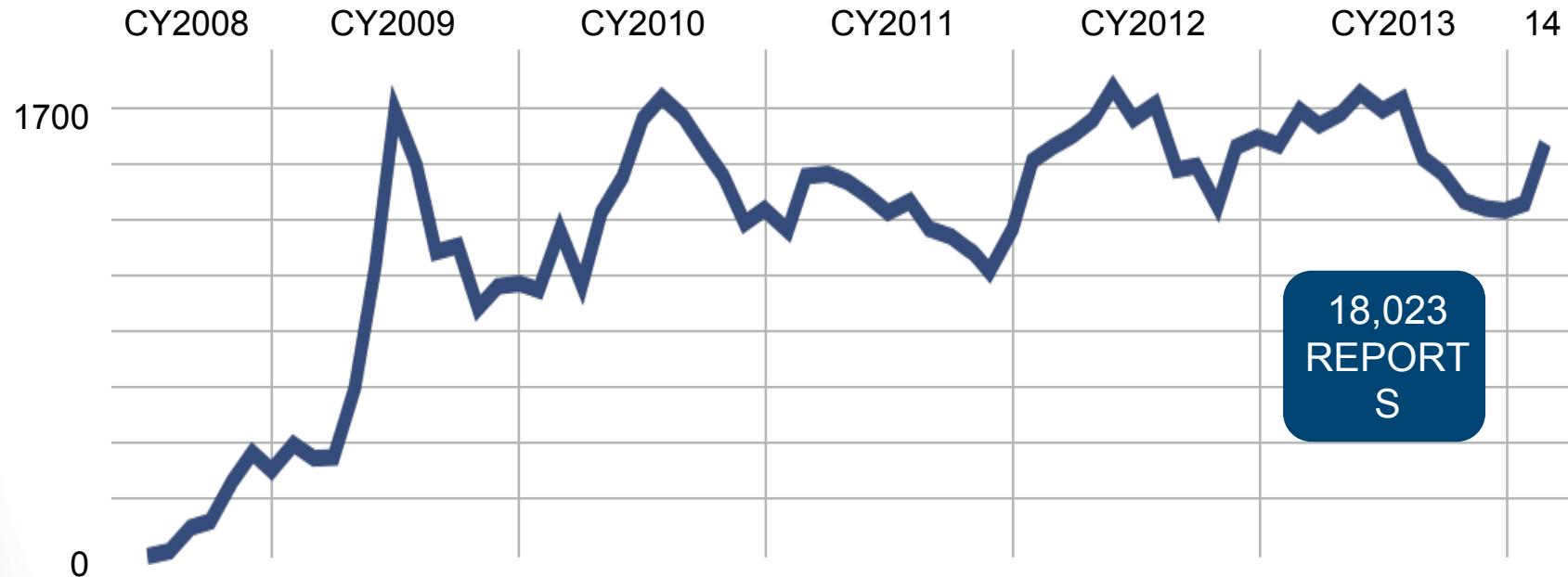
Over 200 lessons learned published in our
ATC Infohub Database.

VOLUNTARY SAFETY REPORTING PROGRAMS



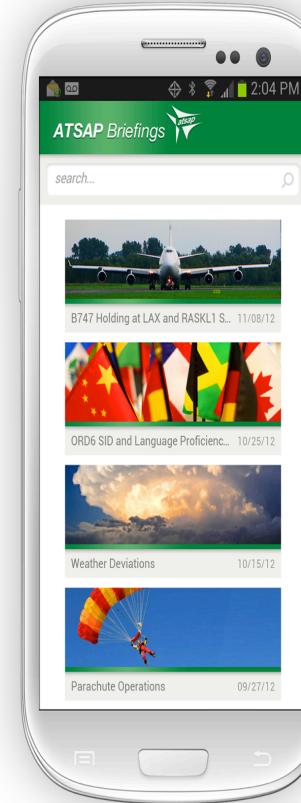
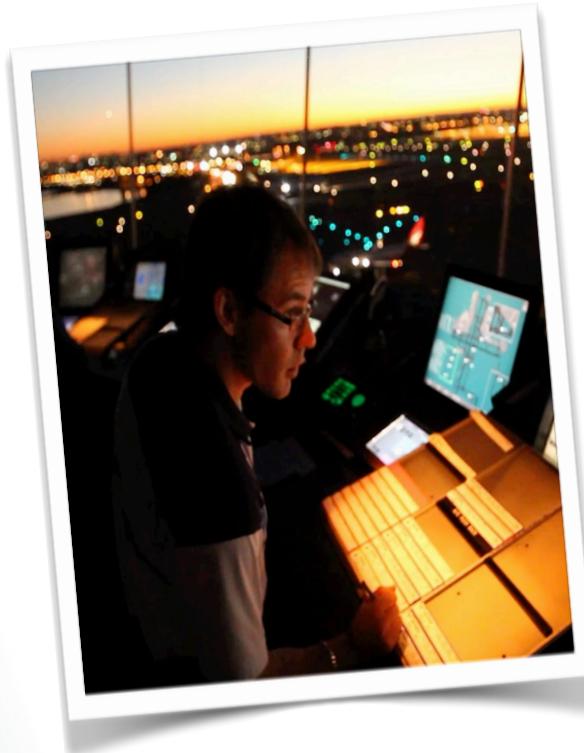
Leveraging experience and knowledge from frontline employees.

VOLUNTARY SAFETY REPORTING PROGRAMS



Reporting participation rate is over 80%.

THE AIR TRAFFIC SAFETY REPORTING PROGRAM - ATSAP



Over 72,000 ATSAP reports filed and 200 positives.

THE CONFIDENTIAL INFORMATION SHARE PROGRAM · CISP



Leveraging knowledge from flight crews
that operate in our NAS.

CISP REPORTING GETS RESULTS



7,213	CISP reports exchanged 2013
5,100	Reports submitted by airlines to FAA
2,113	Reports submitted by FAA to airlines
19	Participating airlines



TOP 5 THE

PRIORITIES

2012

Turns to final
Parallel runway operations
Go-arounds
Clearance compliance altitude
Coordination

2013

Recovery
Traffic advisories/safety alerts
Failure to monitor initial departure headings
Similar sounding call signs
Conflicting procedures

2014

Distractions
Combining/de-combining positions/sectors
Aircraft identity not maintained
Position relief briefings
On-the-job training instruction

National priorities for fixing safety hazards.



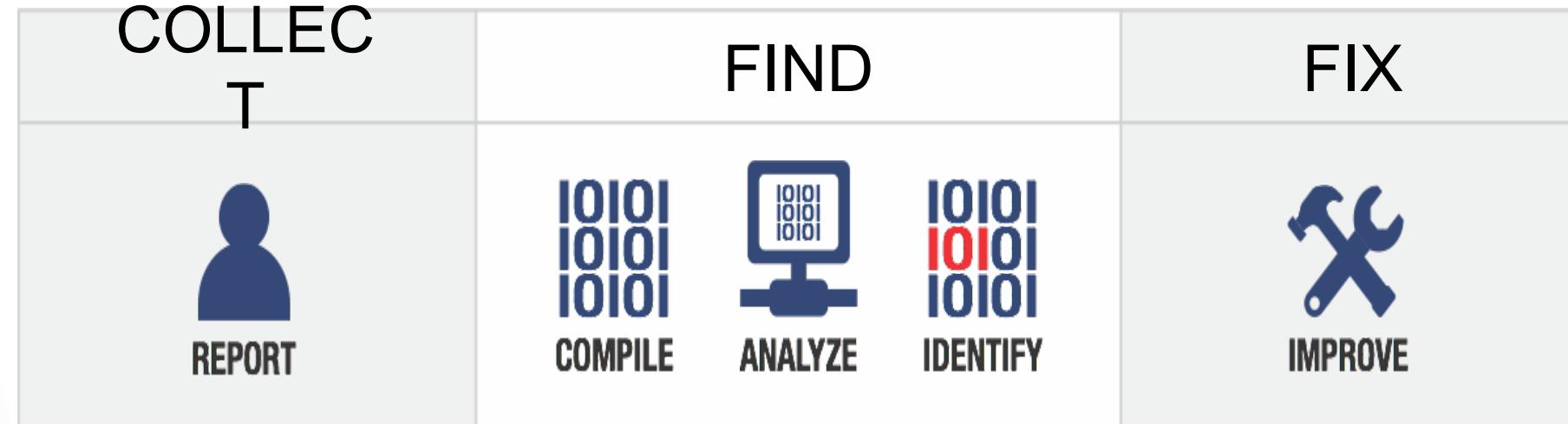


SAFETY IMPROVEMENTS

WE HAVE RESULTS



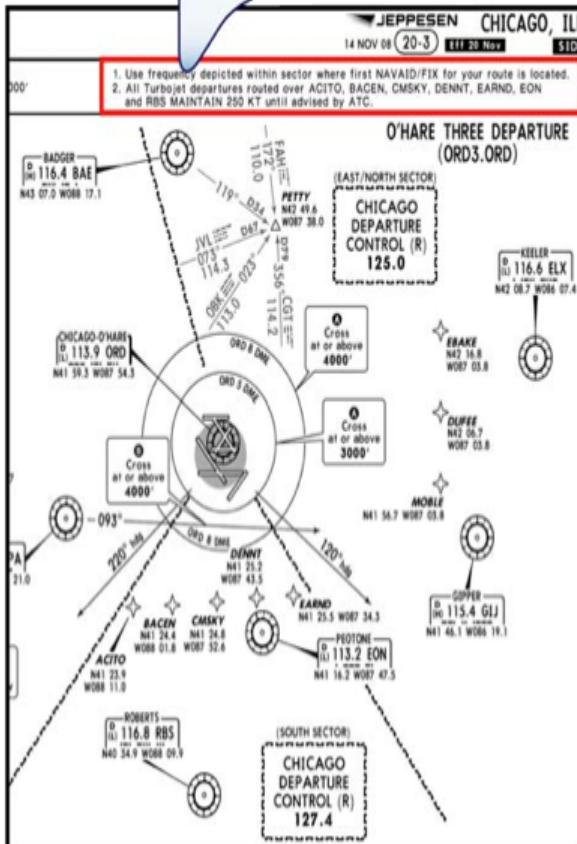
MITIGATING ALTITUDE DEVIATIONS (LEVEL BUSTS)



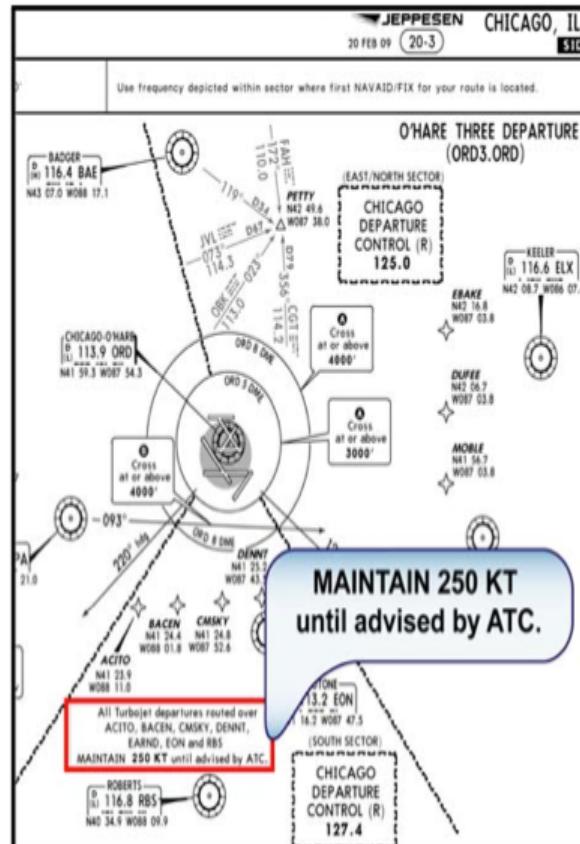
Monitoring and measuring our corrective actions.

ALTITUDE AND SPEED CHART FIX

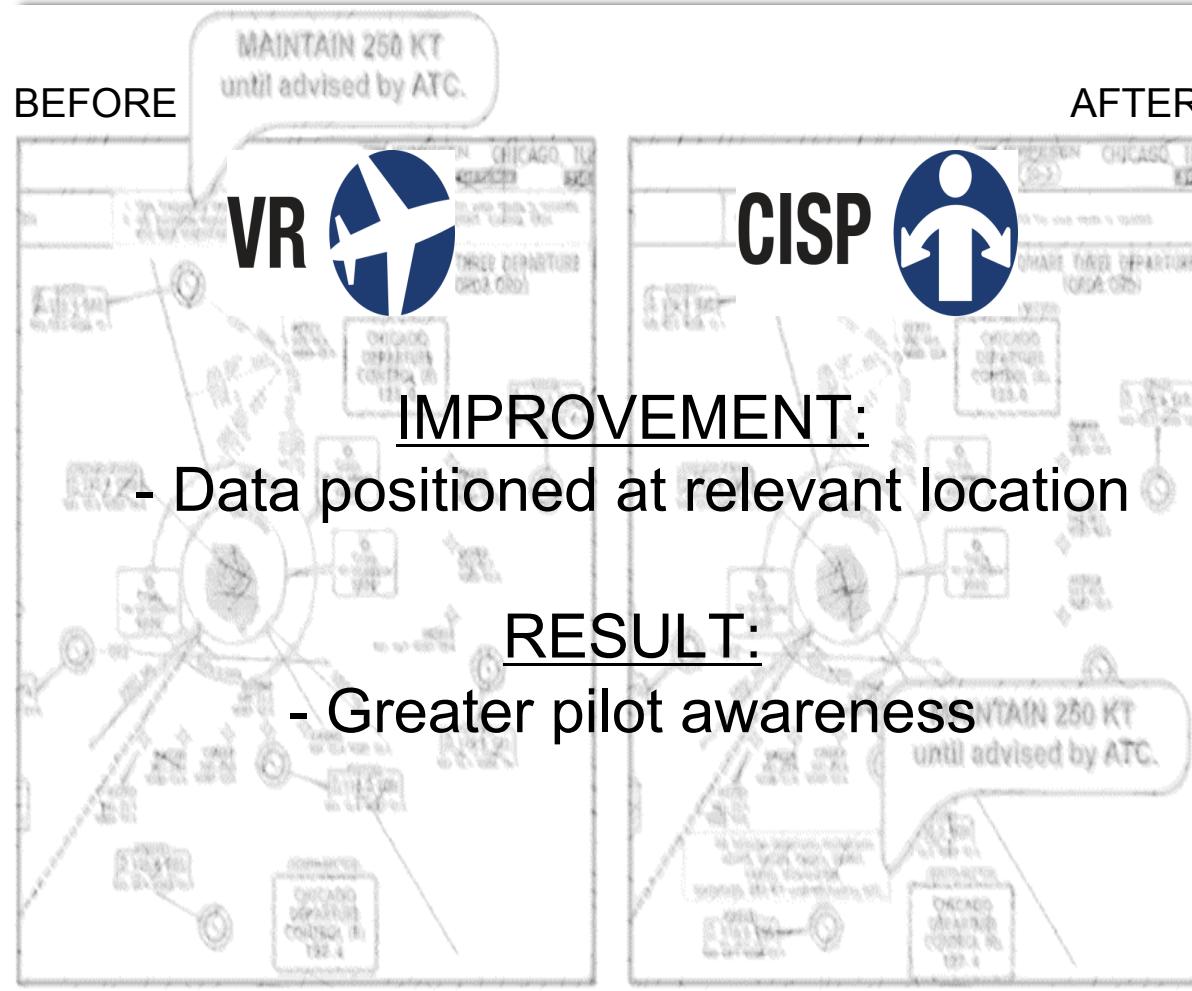
BEFORE



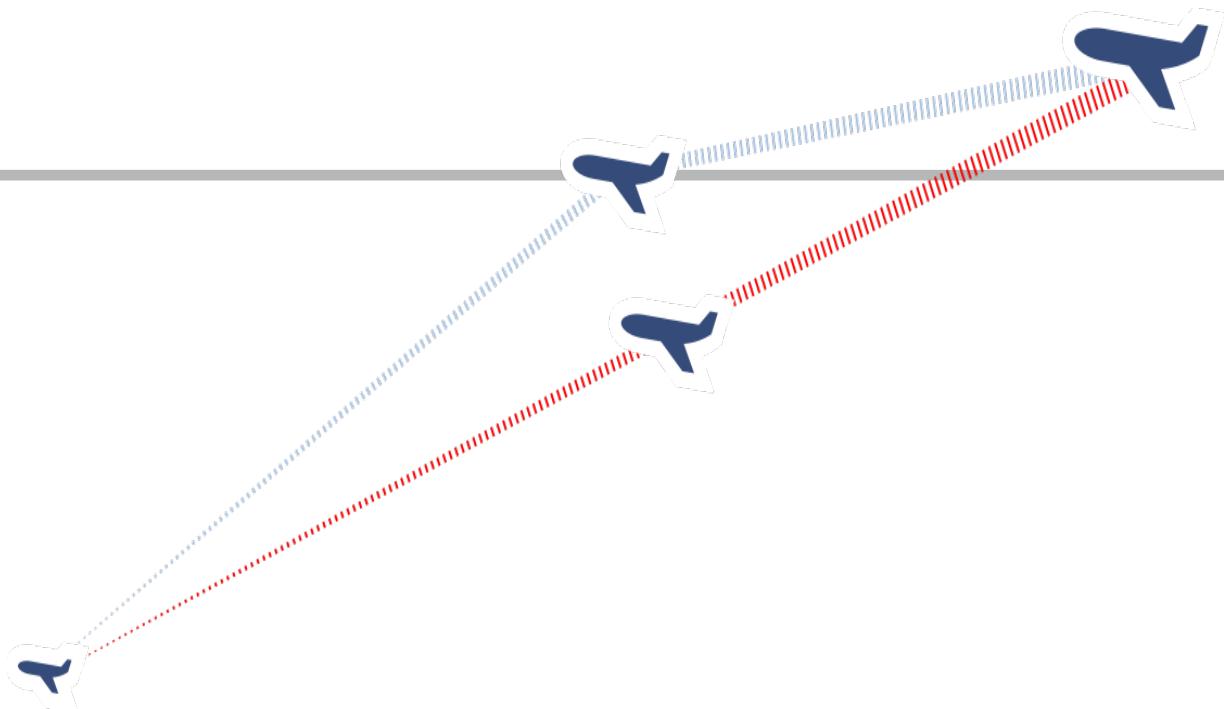
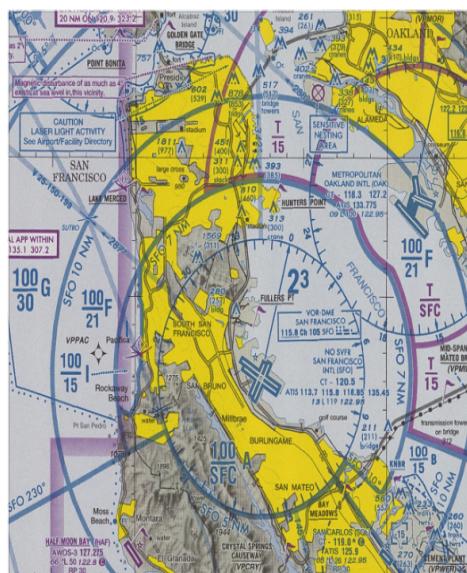
AFTER



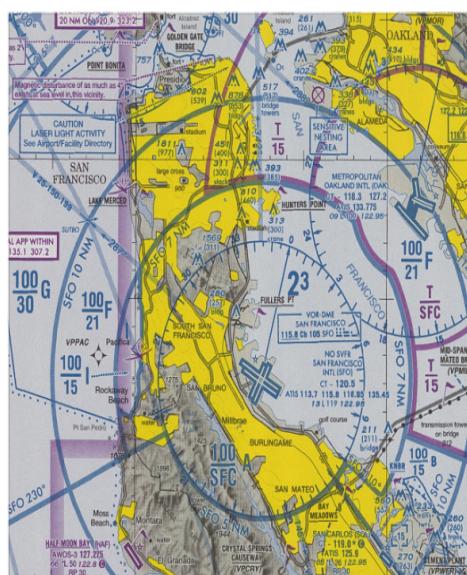
ALTITUDE AND SPEED CHART FIX



ALTITUDE DEVIATIONS



ALTITUDE DEVIATIONS



IMPROVEMENT:

RESULT:



CISP POSITIVES

ORD Route Confusion

Similar route names:
DENW
1

DEN1W

Airlines, FAA and NATCA reviewed and made changes to the route names.

PDX Altitude Deviation

Aircraft descending below minimum altitude.

SFO Departure Altitude

Flight plan did not capture departure route or altitude.

Airlines acted to make change in dispatch database.

Sample 2014 altitude deviation mitigations





SAFETY FACTORS

2012

Turns to final

Parallel runway operations

Go-arounds

Clearance compliance
altitude

Coordination

The Risk Analysis Process determined
these were the contributing factors:

- Incorrect read back
- Wrong aircraft readback
- Controller missed readback
- Frequency congestion
- Blocked readback
- Radio interference
- Landline interference
- Similar call signs
- Misstated altitude

National priorities for fixing safety
hazards.



Turns to final

Parallel runway operations

Go-arounds

Clearance compliance
altitude

Coordination

Our Safety Management System determined
these were clearance compliance altitude
mitigations:

- ATSAP - Safety Briefings
 - LOAs - Pilot Training
- Partnership with NATCA, ALPA & AOPA
- Mitigated similar call signs
- RNAV – Procedures Review
- PBN – Procedures Review

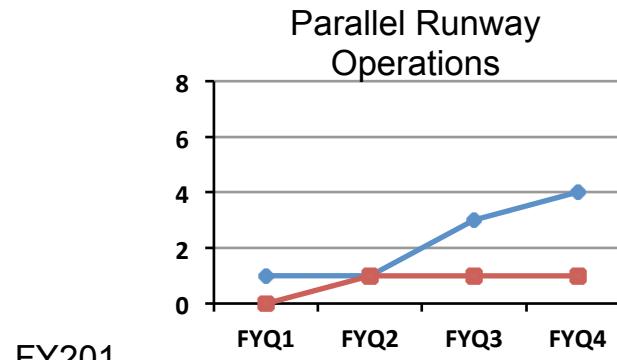
Did not implement
conflict alert
parameter change

Mode-S still
under
review

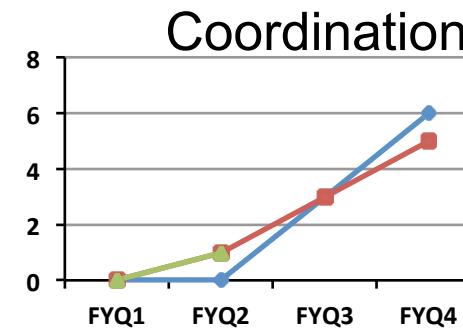
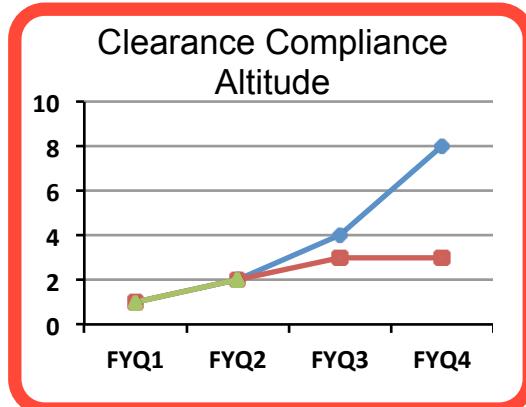
National priorities for fixing safety hazards.

TOP 5

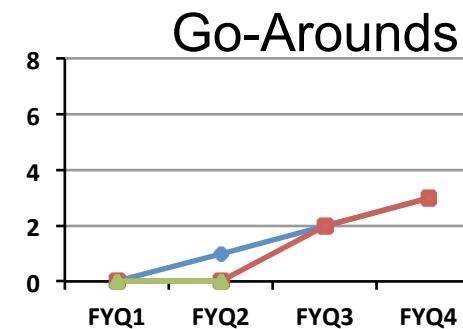
HIGH RISK EVENTS



FY201
3
FY201
2



FY201
3
FY20
12



Taking actions and monitoring efforts produces positive outcomes for safer operations.

IT IS ALWAYS CHANGING



Future technologies will create new safety challenges.

TOP 5

COLLECT	FIND		FIX
REPORT	COMPILE	ANALYZE	IDENTIFY
OR 	VR 	QA 	PFS 
PFS 	QC 	RS 	CISP 
RS 	FRM 	FRM 	TOP 
			RT 

The Top 5 shows the full scope of the ATO's SMS at work.

SAFETY MANAGEMENT SYSTEM

We measure success by the
number of things we fix.





OUR SAFETY MANAGEMENT SYSTEM AT WORK

Mitigating Altitude Deviations

