



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



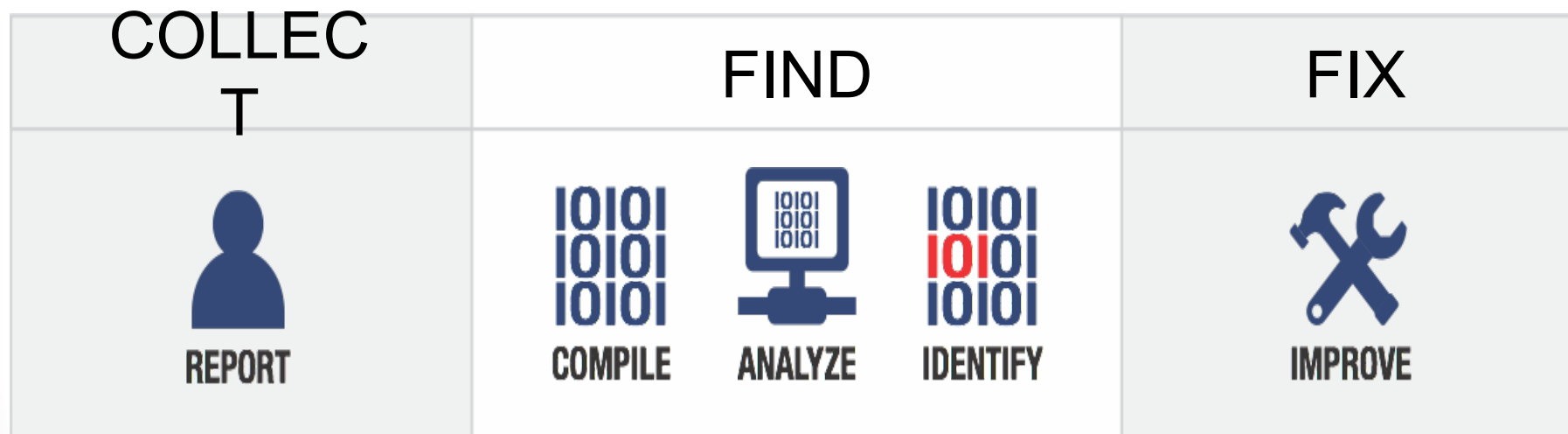
We must empower employees to solve their own safety risks.

PROACTIVE SAFETY

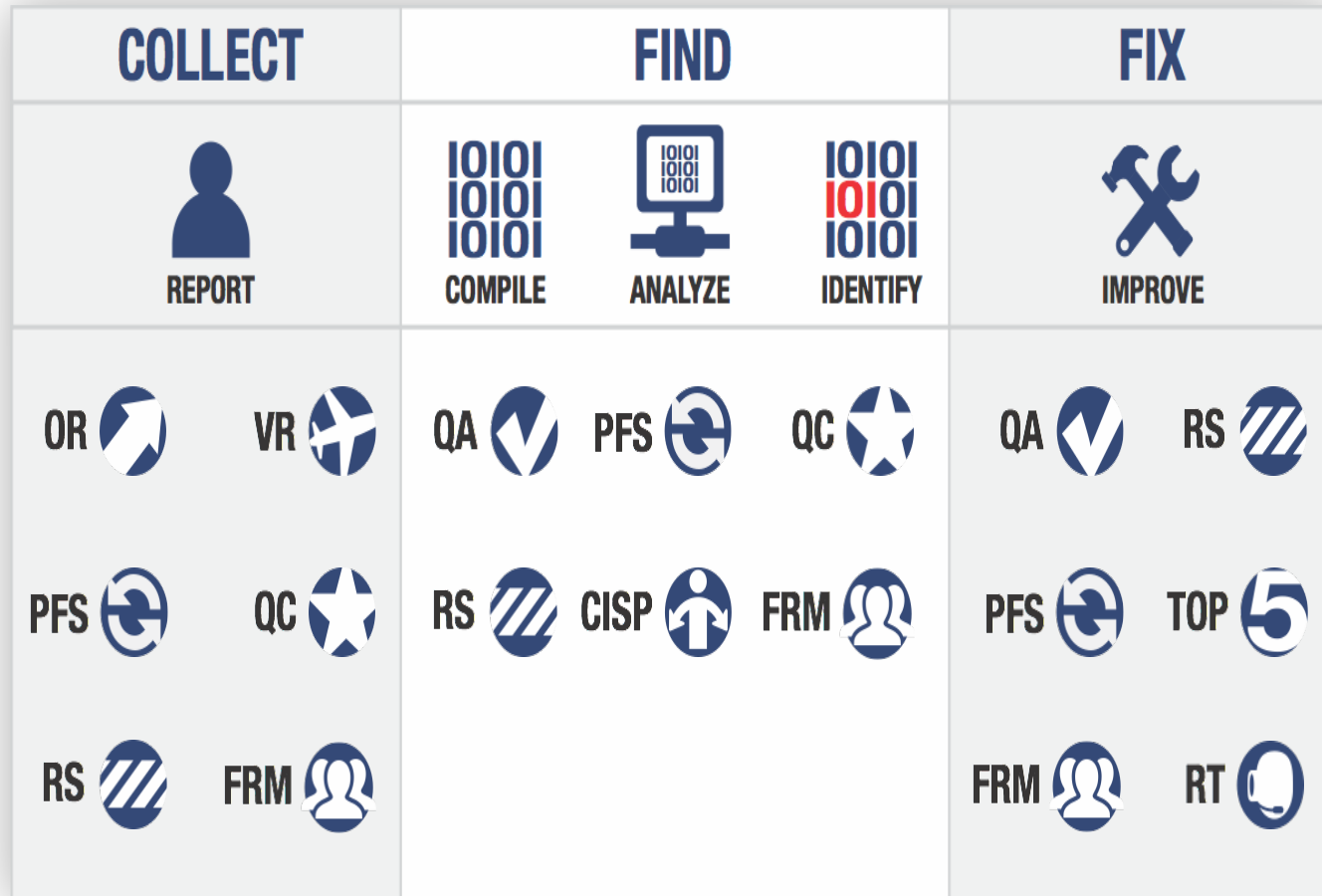
OUR SAFETY MANAGEMENT
SYSTEM



THE SAFETY MANAGEMENT SYSTEM



THE SAFETY MANAGEMENT SYSTEM



GIVE EMPLOYEES THE MEANS TO ENGAGE



Partnership
for Safety



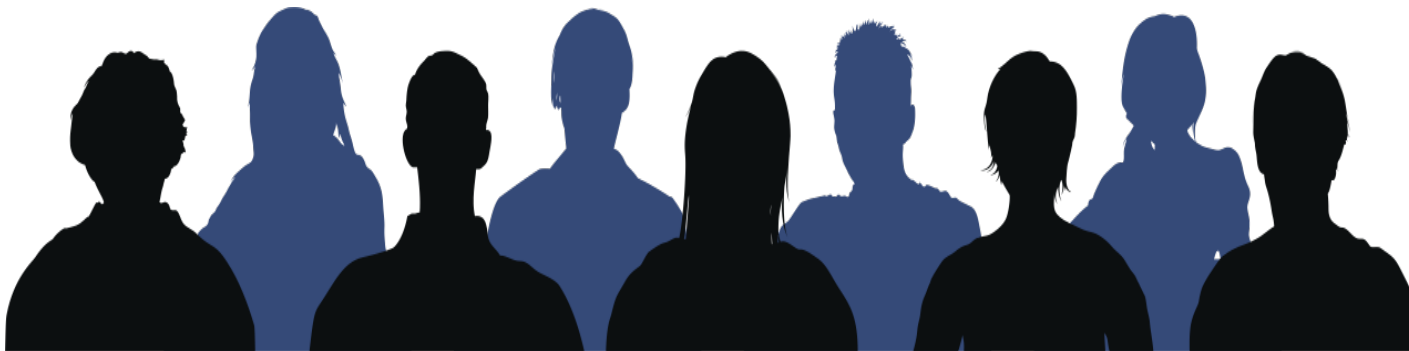
Voluntary Reporting
Programs



Confidential Information Prioritized Hazards
Share Program



to Mitigate



PARTNERSHIP FOR SAFETY



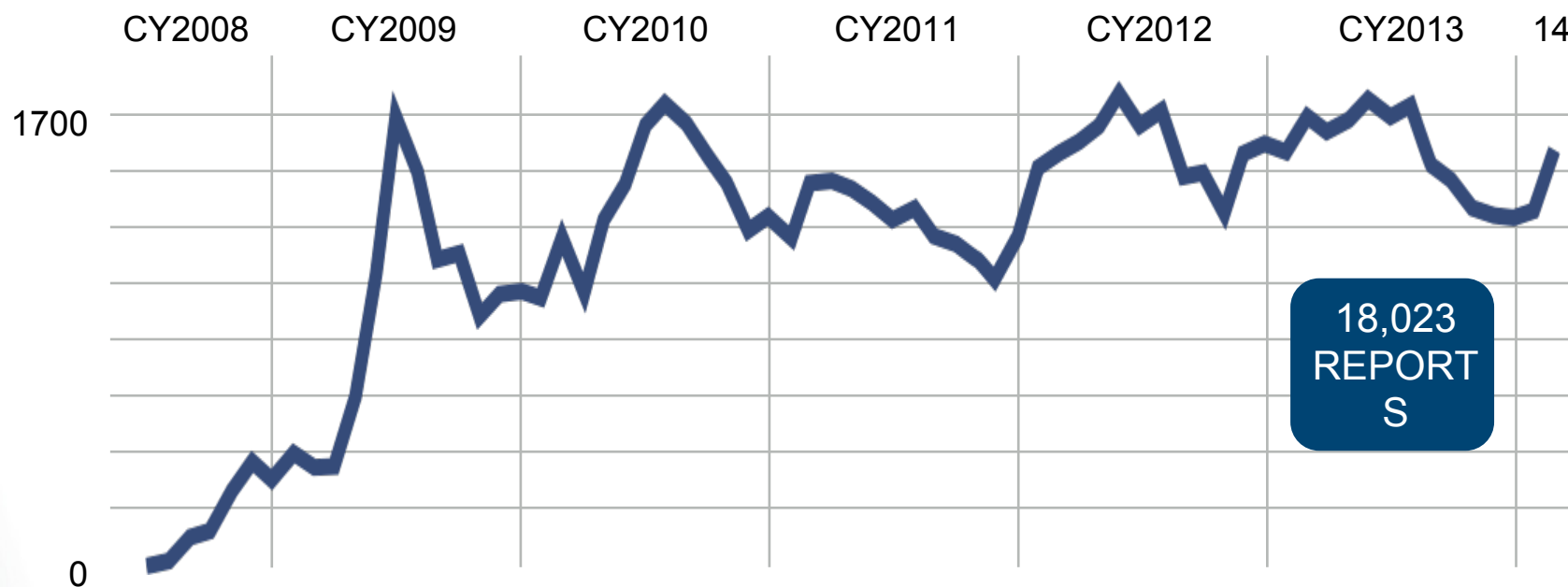
Over 200 lessons learned published in our
ATC Infohub Database.

VOLUNTARY SAFETY REPORTING PROGRAMS



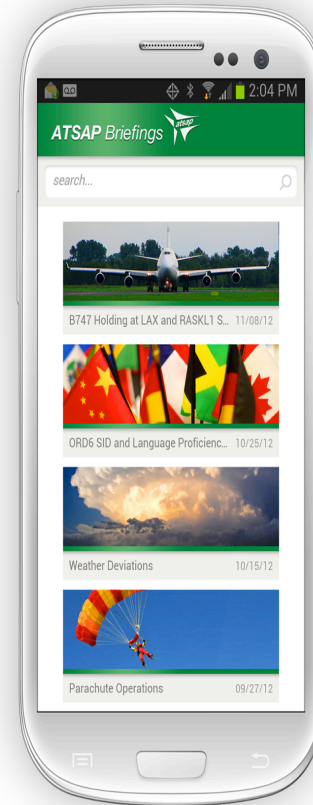
Leveraging experience and knowledge
from frontline employees.

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.



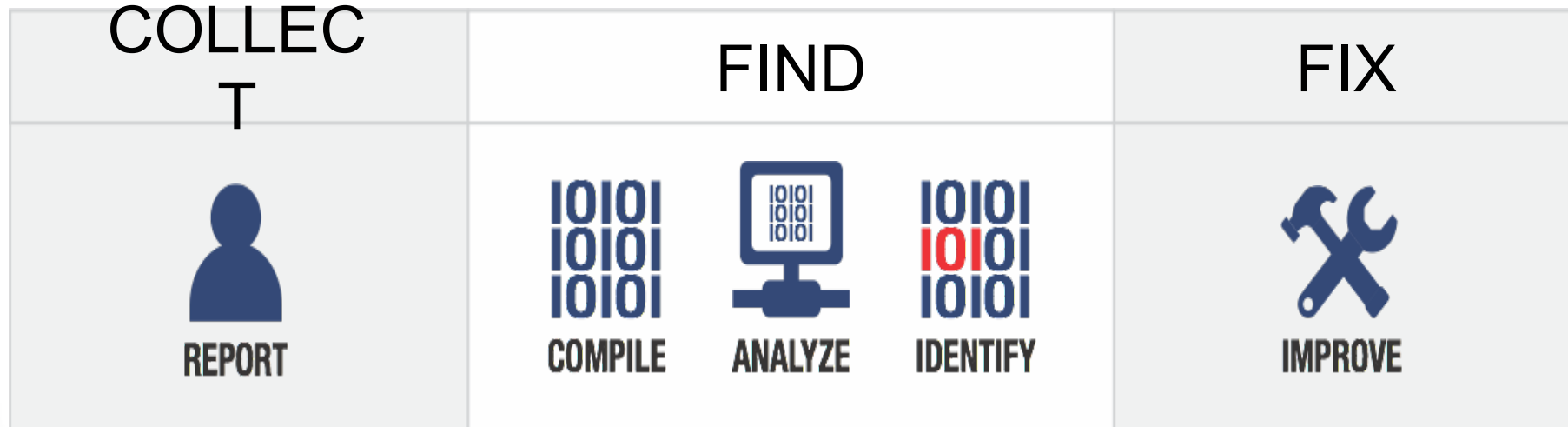


SAFETY IMPROVEMENTS

WE HAVE RESULTS



MITIGATING ALTITUDE DEVIATIONS (LEVEL BUSTS)



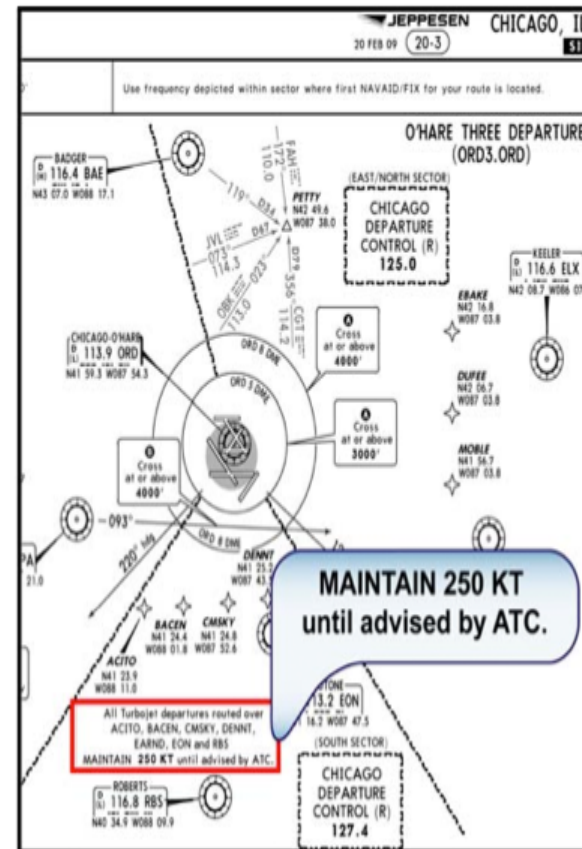
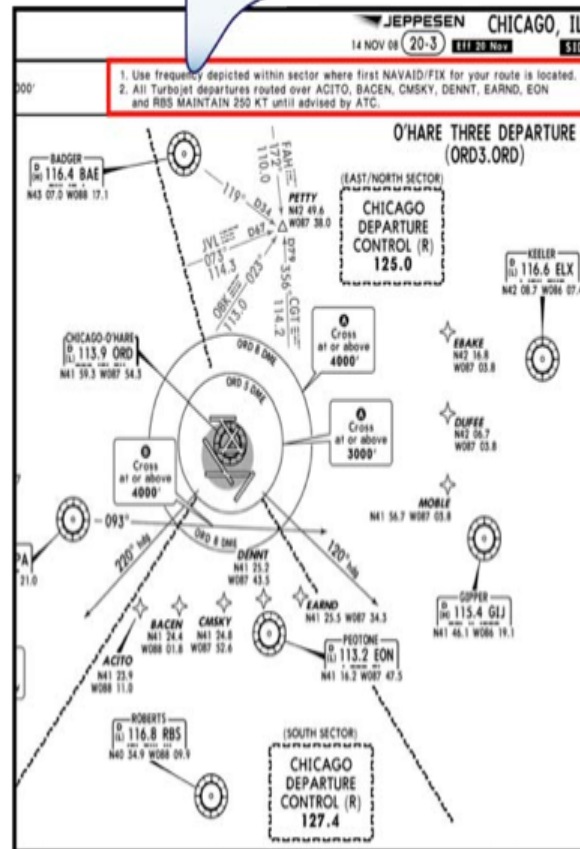
Monitoring and measuring our
corrective actions.

ALTITUDE AND SPEED CHART FIX

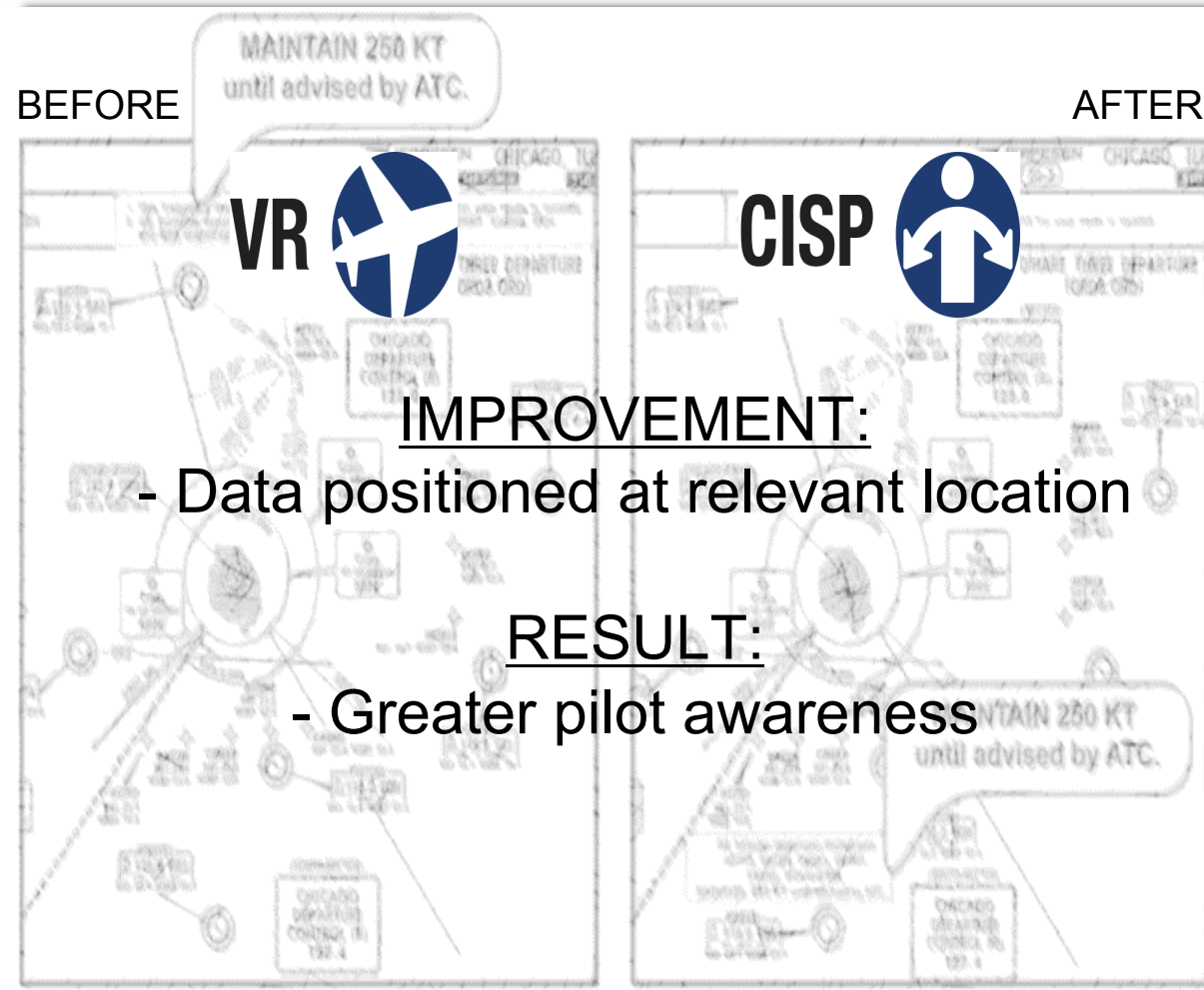
BEFORE

MAINTAIN 250 KT
until advised by ATC.

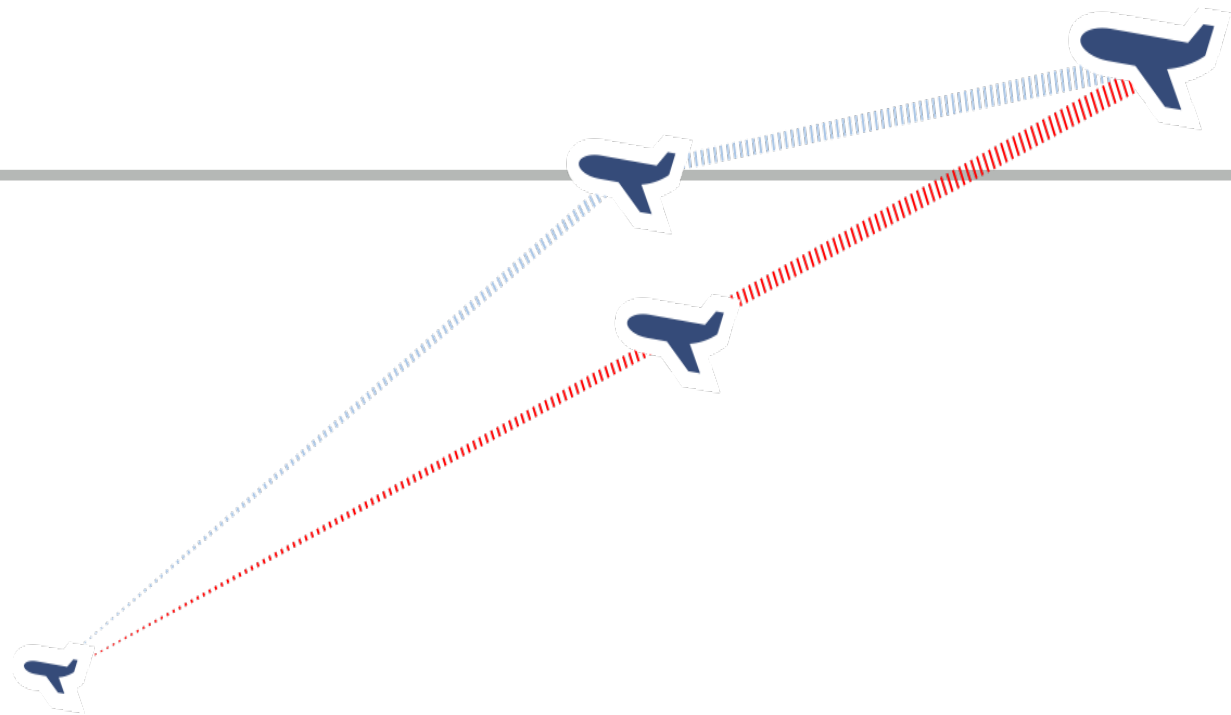
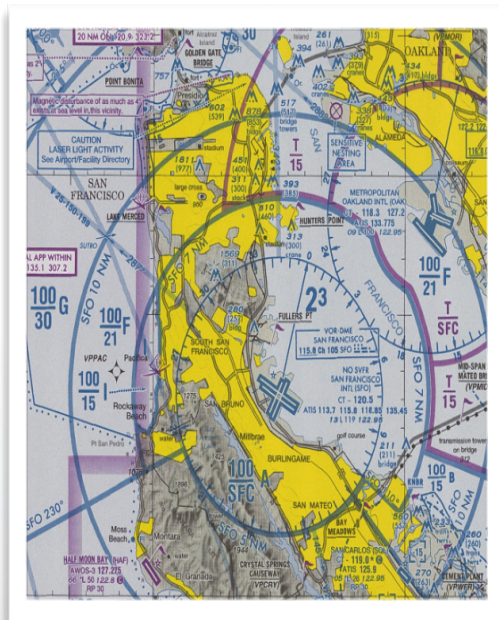
AFTER



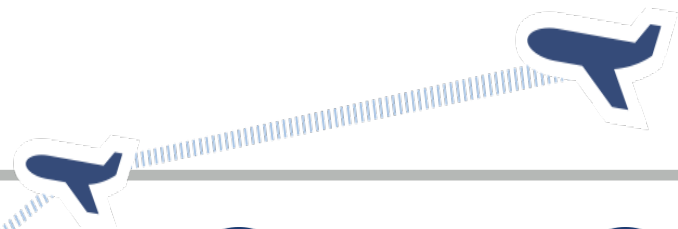
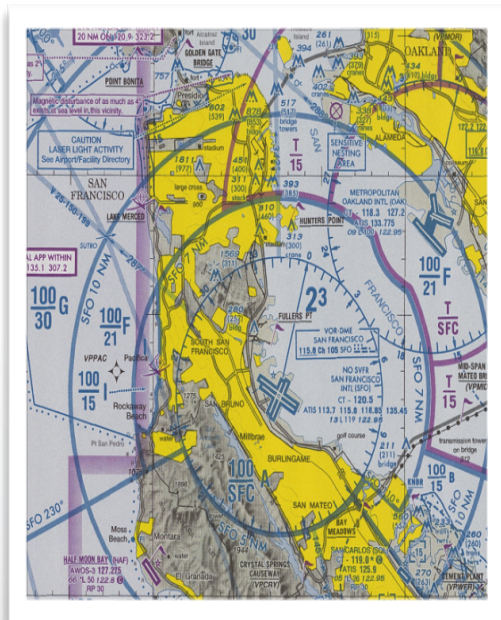
ALTITUDE AND SPEED CHART FIX



ALTITUDE DEVIATIONS



ALTITUDE DEVIATIONS



VR  **CISP** 

IMPROVEMENT:

- Carrier updated air chart

RESULT:

- Greater compliance

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.

Safety Blast sent to all
pilots and FAA design
team to evaluate RNAV.

SFO Departure Altitude

Flight plan did not
capture departure route
or altitude.

Airlines acted to make
change in dispatch
database.

Sample 2014 altitude deviation mitigation





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.



THE TOP 5 MITIGATIONS

2012

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

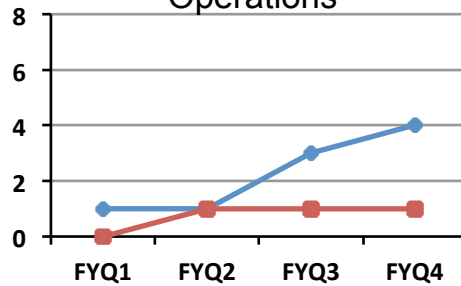
National priorities for fixing safety hazards.



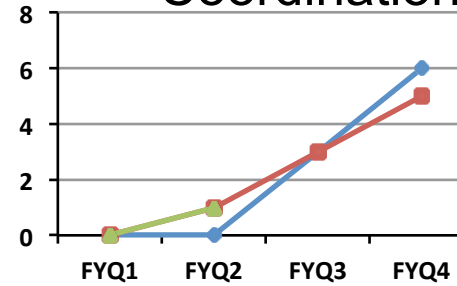
TOP 5

HIGH RISK EVENTS

Parallel Runway Operations



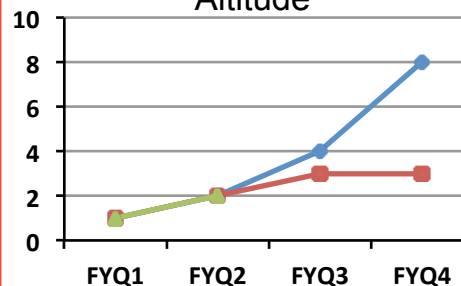
Coordination



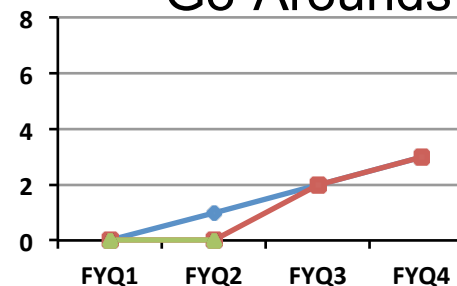
FY201
3
FY201
2

FY201
3
FY20
12

Clearance Compliance Altitude



Go-Arounds


























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	 IMPROVE	
OR 	VR 	QA 	PFS 	QC 	QA 	RS 
PFS 	QC 	RS 	CISP 	FRM 	PFS 	TOP 5 
RS 	FRM 				FRM 	RT 

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

SAFETY MANAGEMENT SYSTEM

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number of things we **fix**.



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