

# ASIAS Overview



**Technology and Tools Symposium**  
**James Fee**  
**July 27, 2009**

# What is ASIAs.....

A collaborative Government and Industry initiative on data sharing & analysis to proactively discover safety concerns before accidents or incidents occur, leading to timely mitigation and prevention.



# ASIAS is Governed by Formal Principles

**Data used solely for advancement of safety**

**Endorsement of voluntary submission of safety-sensitive data**

**Carrier/OEM/MRO data are de-identified**

**Analyses approved by an ASIAS Executive Board**

**Procedures & policies established through collaborative governance**

**Transparency – knowledge of how data are used**

**A Collaborative FAA-Industry ASIAS Executive Board (AEB) Provides Guidance and Oversight**

# ASIAS Executive Board (AEB) Roles & Responsibilities

- **Guidance and Oversight of ASIAS program**
  - Implementation of the working agreement for stakeholders
  - Provide strategic direction
  - Prioritization of ASIAS group activities
  - Focal point of product dissemination to appropriate stakeholders
  - Review and modify process as needed
- **Primary interface between ASIAS analysts and stakeholders**
- **Coordinate analytical efforts among industry/government entities (e.g. EASA, CAA, etc)**
- **AEB to forward all analytical products to appropriate safety teams for in-depth analysis**

# Types of Proactive Safety Analyses

**Directed  
Studies**

**Known Risk  
Monitoring**

**Safety Enhancement  
Assessment**

**Vulnerability  
Discovery**

**Benchmarking  
Operations**



# Studies Completed or Underway

<b>Directed Studies</b>	<b>Runway Safety</b>
	<b>Terrain Awareness Warning System Study</b>
	<b>TCAS Resolution Advisories</b>
<b>Current Safety Metrics Categories for CAST</b>	<b>Approach and Landing Risk Reduction</b>
	<b>Loss of Control</b>
	<b>Mid-Air Collision</b>
	<b>Controlled Flight Into Terrain</b>
	<b>Icing</b>
	<b>Cargo</b>
	<b>Maintenance</b>
<b>Initial Industry Benchmarks</b>	<b>Terrain Awareness Warning</b>
	<b>Airline Stability Metric</b>
	<b>TCAS Resolution Advisories</b>

# Data Sources Supporting the Studies

De-Identified  
FOQA Data

De-Identified  
ASAP Data

## Safety Reports



- Aviation Safety Reporting System
- Runway Incursion
- Surface Incident
- Operational Error / Operational Deviation
- Pilot Deviation
- Vehicle or Pedestrian Deviation
- National Transportation Safety Board
- Accident/Incident Data System
- Service Difficulty Reports

## ATC Information



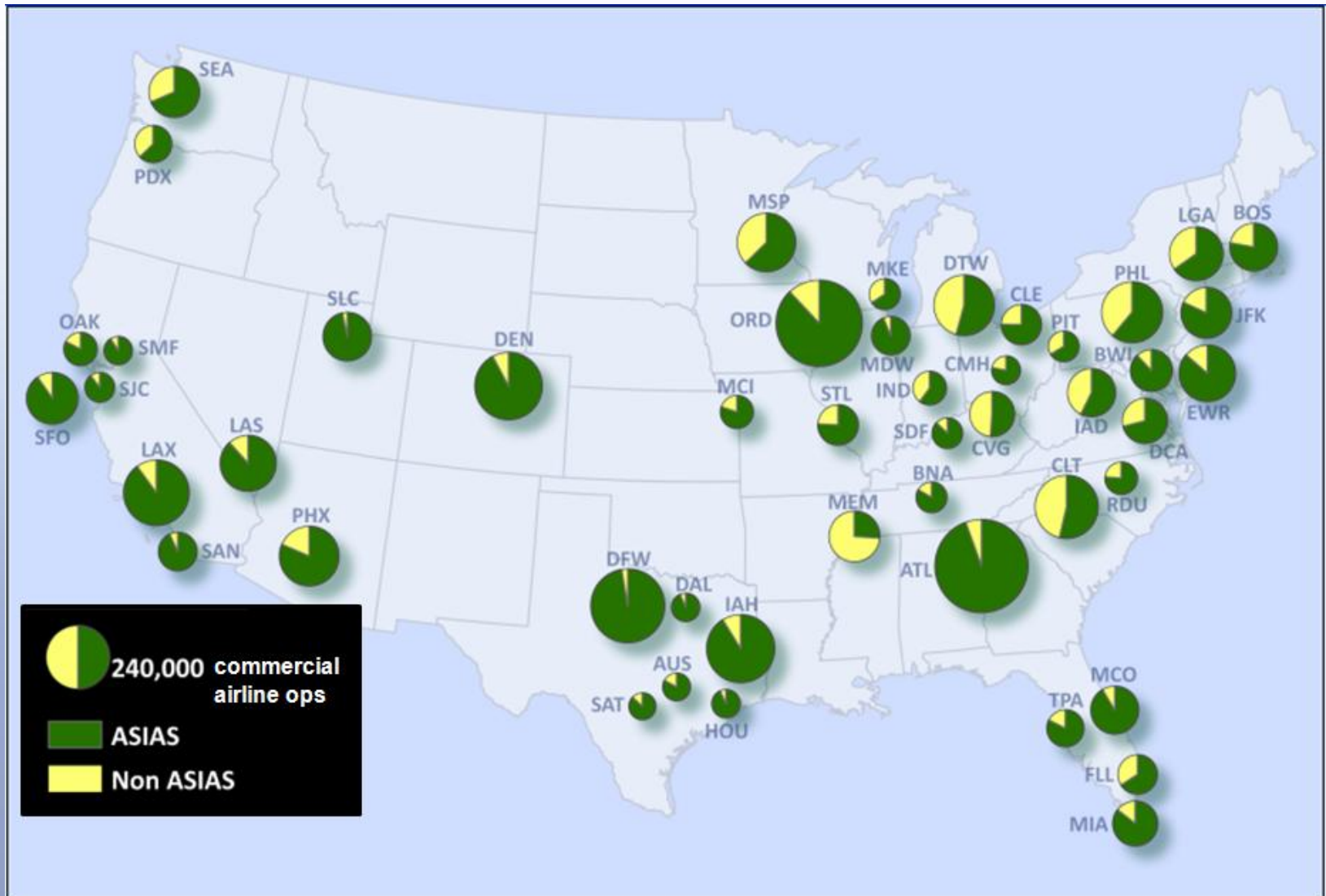
- Traffic Management Reroutes and Delays
- Airport Configuration and Operations
- Sector and Route Structure
- Procedures
- Surveillance Data for En Route, Terminal and Airport

## Other Information



- Bureau of Transportation Statistics
- Weather / Winds
- Manufacturer Data
- Avionics Data
- Worldwide Accident Data

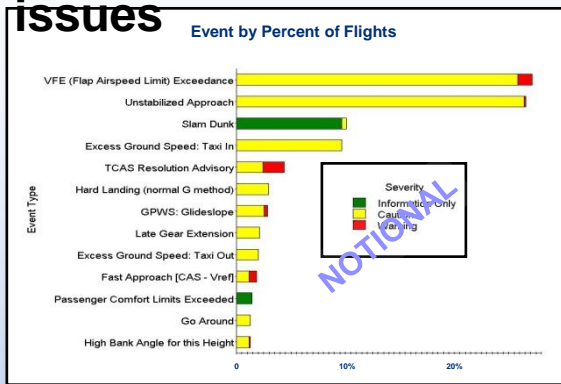
# ASIAS Participants at Major US Airports



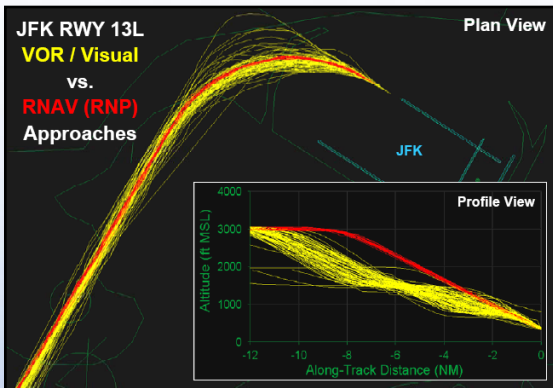


# Aviation Safety Information Analysis and Sharing (ASIAS) Concept

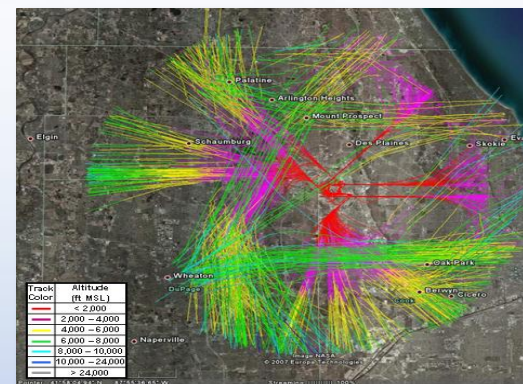
Combining isolated data sources enable new insights to potential safety issues



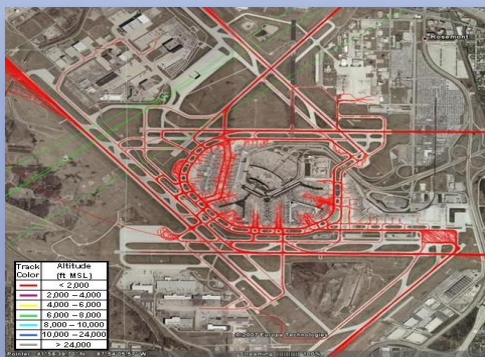
Derived Safety Metrics



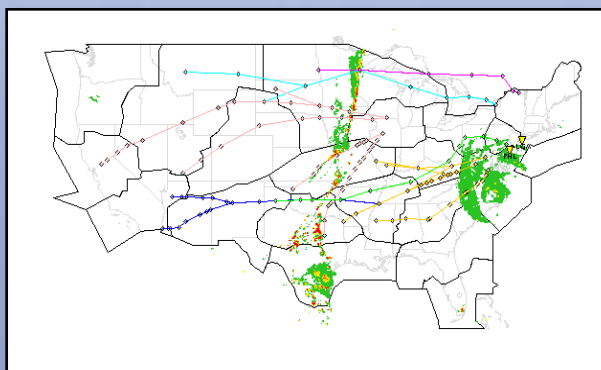
Simulated Procedures



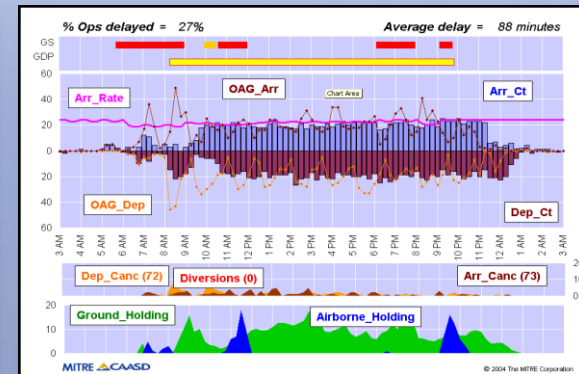
Observed Aircraft Tracks



Airspace and Airport Designs



Archived Weather



Integrated Performance Reports



# Summary

- Major causes of accidents have been addressed through forensic analysis – our task now is monitor hundreds of databases to assess aviation safety
- ASIAs provides for:
  - A national aggregation and analysis of individual airline safety data
  - Integration with other available data for improved contextual picture
  - Achieving a predictive and prognostic ability to identify risks and issues before accidents and incidents occur



**Benefits all sectors of the aviation community**