## NTSB National Transportation Safety Board

### Federal Most Wanted Transportation Safety Improvements

## **Stop Runway Incursions and Ground Collisions of Aircraft**

AN

# Safety Improvements Wanted Runway Incursions

Require a ground movement safety system that will prevent incursions and provide a direct warning to flight crews. A-00-66



# Safety Improvements Wanted Runway Incursions

Require all runways crossings be authorized only by a specific clearance. A-00-67 Require runway crossing clearances be issued only after the previous runway has been crossed. A-00-68



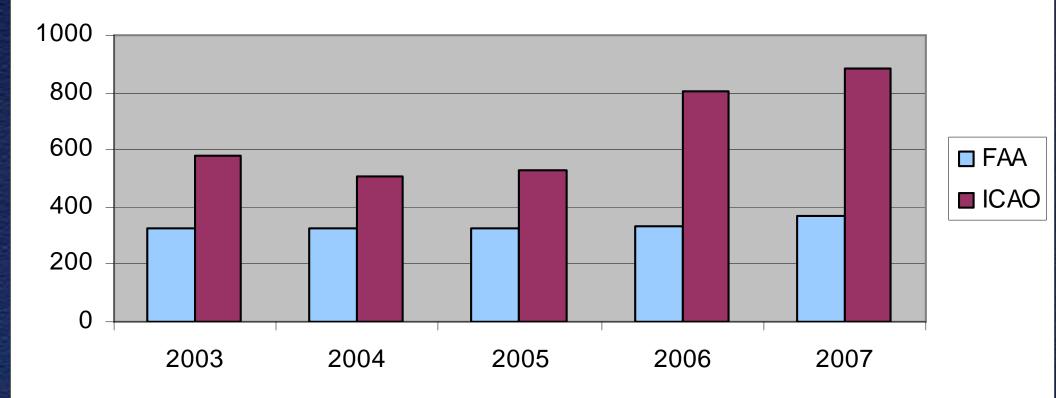
### **Runway Incursion**

Until 9/30/07: Any occurrence in the airport runway environment involving an aircraft, vehicle, person, or object on the ground that creates a collision hazard or results in a loss of required separation with an aircraft taking off, intending to take off, landing, or intending to land

**Beginning 10/1/07:** Any occurrence at an aerodrome involving the incorrect presence of an aircraft vehicle or person on the protected area of a surface designated for the landing and take-off of aircraft



## Runway Incursion Incidents in the US FAA and ICAO Data, 2003 - 2007





#### RUNWAY INCURSIONS All Categories

500 450 Runway Incursions per 1,000,000 Tower Operations 371 330 400 323 326 **Runway Incursion Rate** 327 7.0 350 6.5 300-6.0 250 5.5 Rate est. 6.07\* as of 200 5.40 09/30/07 5.19 5.0 5.14 5.16 150 4.5 100 4.0 50 0 **FY03 FY04 FY05 FY06 FY07** YTD 09/30/07 63.12 63.01 61.13 62.78 Tower Operations (millions) \* Rates are based on Estimated Tower Operations

Runway Incursion Briefing 09/30/2007 EoY DATA ARE PRELIMINARY AND SUBJECT TO CHANGE

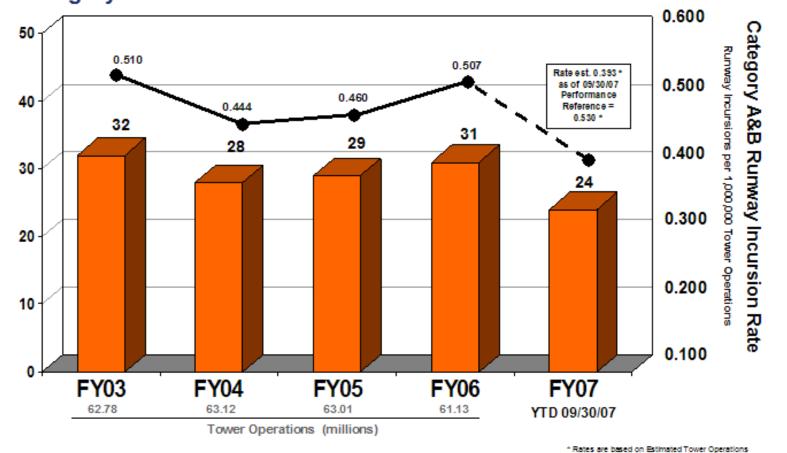


Federal Aviation Administration



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#### Runway Incursions Category A&B



Runway Incursion Briefing 09/30/2007 EoY

DATA ARE PRELIMINARY AND SUBJECT TO CHANGE



Federal Aviation Administration





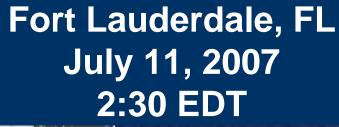
**Fatal Runway Incursion Accidents** in the US, 1990 - 2007 •1990 Atlanta, GA: B727 / Beech A100 •1990 Detroit, MI: DC9 / B727 •1991 Los Angeles, CA: B737 / SW4 •1994 St. Louis, MO: DC9 / C441 •1996 Quincy, IL: Beech 1900 / Beech A90 •2000 Sarasota, FL: C172 / C152 •2006 Lexington, KY: CRJ 100 **112** Fatalities

## Runway Incursion Incidents in the US, May – September 2007

San Francisco, CA: E-170 / E-120 Teterboro, NJ: P180 / SR22 Fort Lauderdale, FL: A320 / B757 New York, NY: CRJ-100 / B737 Teterboro, NJ: LJ45 / CL60 Los Angeles, CA: B737 / A320 Washington, DC: LR-35 35 feet (estimated)
50 feet (max braking)
230 feet
650 feet
1200 feet
37 feet
Closed runway

### 792 Crew and Passengers





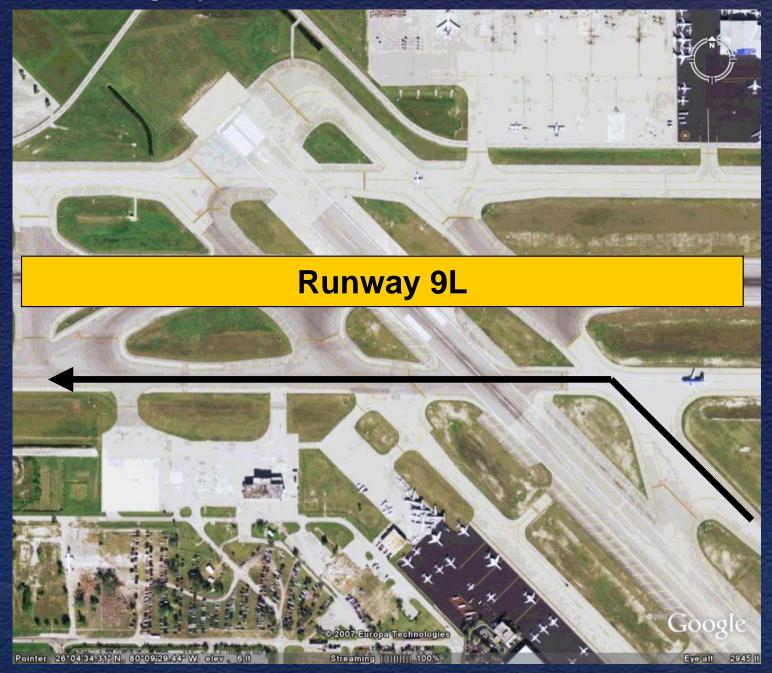






















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Streaming |||||||| 100%



Pointer 37\*36'41.55" N 122\*22'20.98" W elev 0 ft



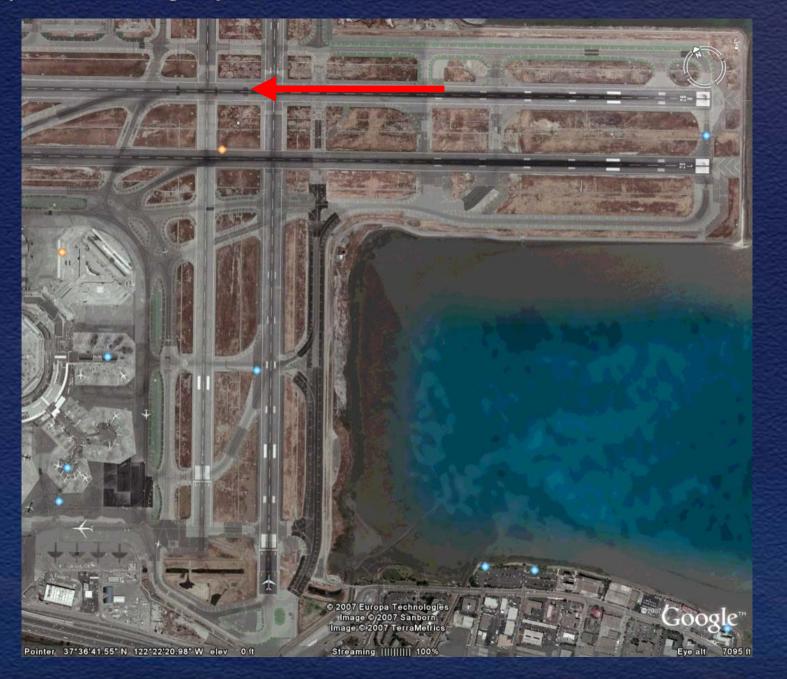
San Francisco, CA May 26, 2007 1:30 PDT

Pointer 37\*36'41.55" N 122\*22'20.98" W elev 0 ft

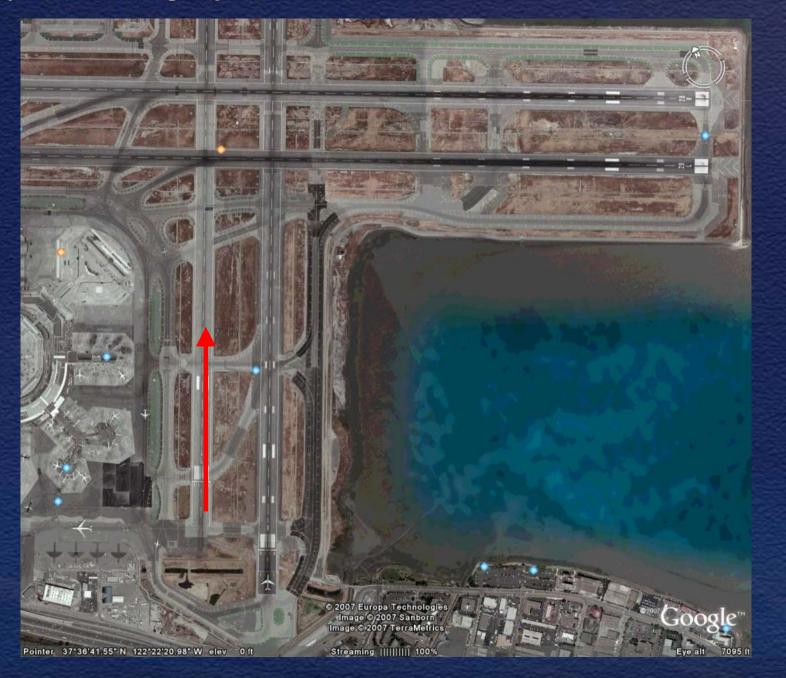
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Streaming |||||||| 100%



















#### **Runway Status Lights**

#### Final Approach Runway Occupancy Signal





#### **Enhanced Airport Lighting Program**







## FAA's "Call to Action"

- Review airport safety
- Disseminate training and information
- Accelerate the deployment of airport signage and markings
- Review cockpit and ATC procedures
- Air Traffic Safety Action Program for air traffic controllers



#### Pinnacle Airlines Traverse City, Michigan April 12, 2007

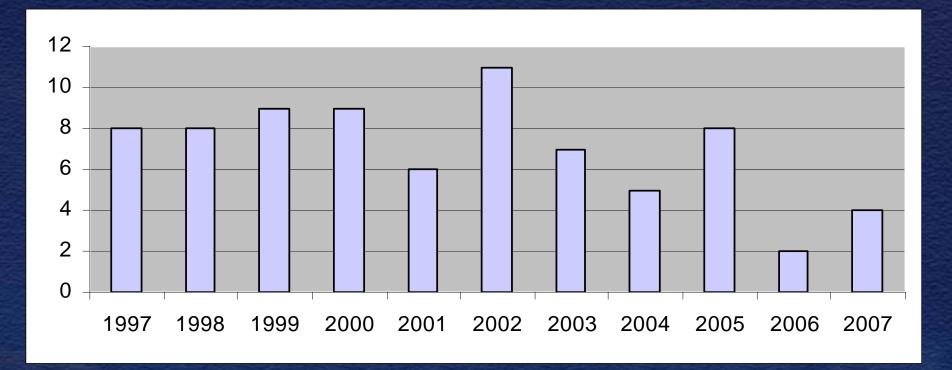


# Safety Improvements Wanted Runway Excursions

Require landing distance assessment with an adequate safety margin for every landing. A-07-57



## Reported Turbine Engine Runway Excursion Accidents in the US, 1997 - 2007





## Recent Runway Excursion Accidents in the US, 2005 - 2007

Teterboro, NJ: CL 600 Chicago, IL: B737 Cleveland, OH: ERJ 170 Traverse City, MI: CL 600 Atlanta, GA: Astra SPX **1 Fatality** 

247 Crew, Passengers and Others



> Stop Runway Incursions and Ground Collisions of Aircraft Proposed Safety Board Action

- Change issue to Improve Runway Safety
- Add recommendations A-00-67, A-00-68, and A-07-57
- Keep issue area on Most Wanted List
- Retain red classification: Unacceptable response

**Timeliness Classification** 



RED