

# SAFETY

## Runway Incursions



Federal Aviation  
Administration

### FY 2009 Performance Target

*"Limit Category A and B (most serious) runway incursions to a rate of no more than 0.472 per million operations."*

### Flight Plan Objective and Performance Target

Objective 3: Reduce the risk of runway incursions.

Performance Target: By 2010, reduce Category A and B (most serious) runway incursions to a rate of no more than 0.45 per million operations, and maintain or improve through FY 2013.

	FY 2005 <sup>1</sup>	FY 2006	FY 2007	FY 2008	FY 2009
<b>Target</b>	36/0.557	0.551	0.530	0.509	0.472
<b>Actual</b>	29/0.460	0.507 <sup>2</sup>	0.393 <sup>3</sup>	0.427 <sup>4</sup>	

<sup>1</sup> For FY 2004, the target was the number of incursions. The target for FY 2005 was the number, but a rate was also reported. In FY 2006, the target became a rate only.

<sup>2</sup> Actual result revised from preliminary estimate of 0.458.

<sup>3</sup> Final result revised in FY07 from preliminary estimate of 0.392. Preliminary estimate revised from original estimate of 0.393 in November 2007.

<sup>4</sup> Final result revised from preliminary estimate of 0.428 in January 2009.

### Definition of Measure

Unit of Measure: Rate of Category A & B (most serious) runway incursions per million operations.

Computation: The total number of Category A and B runway incursions is divided by the sum of the number operations divided by 1 million.

Formula: 
$$\frac{\text{Number of A \& B Incursions}}{(\text{Operations Count}/1,000,000)}$$

Scope of Measure: A runway incursion is 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 takeoff of aircraft. They are grouped in three general categories: operational errors, pilot deviations, and vehicle/pedestrian deviations. Runway incursions are reported and tracked at airports that have an operational air traffic control tower. Operations are defined as total takeoffs and landings.

The FAA tracks four categories of runway incursions - A, B, C, D - but includes only those with the highest risk of collision, Category A and B incursions, in the measure.

- Category A: Separation decreases to the point that participants take extreme action to narrowly avoid a collision.
- Category B: Separation decreases, and there is a significant potential for a collision.
- Category C: Separation decreases, but there is ample time and distance to avoid a collision.
- Category D: There is little or no chance of collision, but the definition of a runway incursion is met.

In FY2002 FAA changed the focus of measurement for runway incursions from all incursions to those incursions with measurable risk of collision, Categories A and B. Since Category C and D incursions were not likely to lead to an accident or a significant risk of an accident, their inclusion in the previous total tended to mask true safety risk. The new measure reflects the focus of FAA's runway safety effort to reduce the rate of the incursions with demonstrable risk.

### **Why the FAA Chooses this Measure**

Runway incursions create dangerous situations that can lead to serious accidents. Reducing the number of runway incursions lessens the probability of accidents that potentially involve fatalities, injuries, and significant property damage.

### **Source of the Data**

Air traffic controllers and pilots are the primary source of runway incursion reports. The data are recorded in the FAA National Incident Monitoring System (NAIMS). Preliminary incident reports are evaluated when received and evaluation can take up to 90 days.

### **Statistical Issues**

None.

### **Completeness**

The data are typically not finalized for 90 days following the close of the fiscal year. Surface operational error/deviation, surface pilot deviation, and vehicle/pedestrian deviation reports are reviewed on a daily basis to determine if the incident meets the definition of a runway incursion. Runway incursions are a subset of the incident data collected and the completeness of the data is based on the reporting requirements and completeness for each of the incident types.

### **Reliability**

FAA uses performance data extensively for program management, personnel evaluation, and accountability in prioritizing its facility evaluations and audits. The data is also used on a daily basis to track progress of achieving performance goals. Annual runway incursion incident data are used to provide a statistical basis for research and analysis and outreach initiatives. The FAA verifies and validates the accuracy of the data through reviews of preliminary and final reports. Reconciliation of the databases is conducted monthly and anomalies are explored and resolved. In cases where major problems are identified, a request to re-submit is issued. The FAA conducts annual reviews of reported data and compares the data with data reported from previous years.