

FAA Runway Safety Report

Runway Incursion Trends at Towered Airports
in the United States

CY 1998 – CY 2001



FAA Office of Runway Safety

June 2002

PREFACE

The Federal Aviation Administration (FAA) Office of Runway Safety released a runway safety report in June 2001. This report presented runway incursion trends for calendar years (CY) 1997–2000 and, for the first time, categorized incursion events by severity of the incident. The severity categorizations were based on a thorough analysis performed in collaboration with aviation safety experts from industry. The findings from this analysis were used to identify severity trends at towered airports in the United States and guide the implementation of safety-related objectives.

The *FAA Runway Safety Report, CY 1998–CY 2001* incorporates the runway incursion data from CY 2001 and represents a more in-depth analysis of runway incursion trends at United States towered airports for this four-year period. This report also introduces areas for further investigation to identify and anticipate safety vulnerabilities on airport surfaces.

The objectives of this analysis are to expand the understanding of runway safety trends within the aviation community and to clarify runway safety issues. The FAA plans to use the findings in working with aviation constituents to reduce the severity and frequency of runway incursions, as well as the risk of runway collisions.

The reader is invited to visit the FAA Office of Runway Safety website (www.faa.gov/runwaysafety) for more information about the FAA's activities and to view current runway incursion data.

EXECUTIVE SUMMARY

The National Airspace System collectively managed approximately 268 million takeoffs and landings at the more than 480 towered airports in the United States during calendar years (CY) 1998 through 2001. Of these 268 million airport operations, 1,460 resulted in a runway incursion. That is approximately five runway incursions for every one million operations. Of the 1,460 incursions, three resulted in collisions with a total of four fatalities.

In CY 2001, the Federal Aviation Administration (FAA) Office of Runway Safety staff, consisting of a multidisciplinary team of aviation experts, analyzed the runway incursions that occurred in 2001 on a weekly basis and systematically categorized the severity of each event using the classification methodology developed and explained in the *June 2001 FAA Runway Safety Report*. This year's report discusses the severity, number, and rate of runway incursions from CY 1998 through CY 2001.

Overall, the number of runway incursions decreased by 11 percent, from 431 in CY 2000 to 383 in CY 2001. This decrease in number was accompanied by a nationwide decrease in the rate of runway incursions, from 6.4 to 5.9 incursions per million operations—an 8 percent improvement in CY 2001 over the previous year.

Eighty-six percent of the incursions nationwide were Category C and D events, most of which consisted of pilot deviations involving two general aviation aircraft. In CY 2001, there was a decrease in the number of runway incursions for all severity categories; however, Category B and C events accounted for the majority of this reduction. Pilot deviations were the only runway incursion type that decreased in both frequency and severity in CY 2001.

The September 11, 2001, terrorist attacks on the United States had a notable impact on National Airspace System operations: airports were temporarily closed and the demand for air travel declined. However, in total, there were only 3 percent fewer operations in CY 2001 than in CY 2000. This decline was primarily attributed to 28 percent fewer operations in September 2001 than in September of the previous year. In addition, the respective monthly variations in volume from CY 1998 through CY 2001 were similar, and there were consistent declines in traffic volume in the fourth quarter of each year. These trends suggest that the 11 percent reduction in runway incursions in CY 2001 cannot be fully attributed to the immediate decline in traffic volume following September 11, and that other factors likely contributed to this effect.

Trends in runway incursion rates for the past four years indicate that the most frequent runway incursions involved either two general aviation aircraft or two commercial aircraft. Although this finding may appear peculiar at first, these trends are not surprising considering that the air traffic control strategies used at towered airports typically attempt to group together aircraft with similar

performance characteristics for increased capacity utilization. This strategy, in turn, offers more opportunities for similar types of aircraft to interact.

As cited in the *FAA Capacity Benchmark Report for CY 2001*, the FAA references 32 airports as “benchmarks” for monitoring capacity and safety trends across the nation. The FAA’s 32 benchmark airports accounted for nearly 27 percent of the 383 incursions reported in CY 2001. These airports served 23 percent of the aircraft operations at civilian and joint-use towered airports in the United States. The rate of runway incursions for these airports increased from 5.6 to 6.9 incursions per million operations from CY 2000 to CY 2001. Almost half of these airports (15 airports) reported an increase in the rate of runway incursions for CY 2001. All of these airports are slated to get new safety-enhancing technologies—the Airport Movement Area Safety System (AMASS) and/or Airport Surface Detection Equipment–Model X (ASDE-X). These systems will provide air traffic controllers with increased situational awareness regarding the position of aircraft on the airport surface and will enable controllers to recognize deviations earlier for improved risk mitigation.

Further decreasing the risk of runway incursions hinges on an improved understanding of airport-specific attributes, such as airport infrastructure, operations, local air traffic control procedures, and human performance issues, that may contribute to the complexity of managing airport flight operations. The influence of these variables on runway safety must be examined from pilot and air traffic controller perspectives. As an example, 188 of the 488 towered airports reported pilot deviations involving two general aviation aircraft. These airports managed 49 percent of the total aircraft operations from CY 1998 through CY 2001, most of which were general aviation operations. Although general aviation runway incursions consisted mostly of pilot deviations, runway incursions involving commercial aircraft were more evenly distributed among pilot deviations *and* air traffic control operational errors. Assessments of the airport environment may provide useful information to better explain the reasons for these differences. The FAA is developing a prospective approach to analyze airport-specific vulnerabilities that represent latent risks, evaluate the potential effectiveness of alternative runway safety objectives, and implement tailored solutions.

In CY 2001, the Office of Runway Safety also identified opportunities for improving runway incursion data collection, analysis, and reporting. As a result, the office is developing a Data Management Reporting System (DMRS) to improve access to, and management of, runway safety information.

Runway safety management is not a static victory but the dynamic management of both current and emerging risks. Armed with an improved understanding of historical runway incursion trends—and complemented by a proactive approach for anticipating emerging risks and an improved system for collecting, analyzing, and communicating runway safety information—the FAA Office of Runway Safety is making progress toward achieving Department of Transportation (DOT) and FAA runway safety goals.

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INTRODUCTION

The United States National Airspace System (NAS) is the busiest in the world. There are more than 480 towered airports that handle more than 180,000 airport operations—takeoffs and landings—a day. The NAS relies on smooth coordination among more than 15,000 air traffic controllers (ATC), more than 600,000 pilots, a wide variety of other individuals such as airport vehicle operators, and diverse organizations to operate safely and efficiently.

The growing demand for air travel and NAS capacity limitations put increasing pressure on the aviation community to constantly strive to improve its already high standards of safety while being responsive to demands for greater system efficiency. One step toward finding solutions that accomplish both of these goals is to better understand the factors that affect runway safety. In executing its mission to ensure that aviation safety is not compromised, the Federal Aviation Administration (FAA) collects and analyzes safety-related data, such as information on runway incursions. The analysis of runway safety data is a necessary step in developing approaches that will be used to anticipate emerging runway safety issues and to institute preventive measures that are both timely and cost effective.

United States airports with an air traffic control tower (towered airports) report the occurrence of runway incursions. These towered airports consist of both civilian and joint-use (civilian and military) airports. From CY 1998 through CY 2001, there were more than 480 towered airports, which collectively averaged 67 million airport operations a year. Of the approximately 268 million airport operations at United States towered airports from CY 1998 through CY 2001, 1,460 resulted in a runway incursion. That is approximately five runway incursions for every one million operations. Of the total incursions in this four-year period, three resulted in collisions on the runway, with a total of four fatalities.

This performance record is the product of a complex web of systems, air traffic control and pilot procedures, and well-trained professionals working in concert to prevent and mitigate aviation safety risks. Encompassing technology and people, these measures are aimed at preventing runway incursions and mitigating the chance of incursions resulting in collisions. Developed to protect against the consequences of human error and technical failure, airport operations are resilient and error tolerant by design. To further enhance error tolerance, it is essential to understand both the severity and the frequency of runway incursions. This focus will guide the implementation of technologies and procedures to enhance runway safety and improve airport efficiency. This report discusses currently available runway safety data for CY 1998 through CY 2001 to better characterize the severity and frequency of runway incursions.

Of the approximately 268 million airport operations that took place at United States towered airports from CY 1998 through CY 2001, 1,460 resulted in a runway incursion—a rate of five runway incursions for every one million operations. Three of these incursions resulted in collisions on the runway, with a total of four fatalities.

A runway incursion is 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.

Background

Runway safety is managed according to rigorous protocols that pilots and air traffic controllers use to control aircraft on runways. Imagine that an invisible bubble forms around an airplane when it crosses the hold line and enters the runway environment. This bubble acts as a buffer zone to protect the airplane from collisions or errors during takeoff and landing. The depth of the bubble—the space between an airplane and another object on the runway—is referred to as separation. Maintaining the perimeter of the bubble is maintaining separation. Any penetration of the bubble is an incursion. The more deeply the bubble is compromised, the more serious the incursion. The formal definition of an incursion is 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.

Purpose

This report updates the assessment of runway incursion trends in the United States to include CY 2001 data, providing a more comprehensive understanding of the risk that runway incursions pose to the flying public. The FAA also aims to inform the aviation community of the direction and activities undertaken by the FAA Office of Runway Safety during CY 2001, thus inviting critique, comment, and recommendations. The FAA intends to use the information in this report to:

- Communicate within government and industry, both nationally and internationally, to increase awareness, improve operations, and reduce the risk of runway incursions
- Update the safety management strategies that address the issues and trends described in this report
- Develop prospective runway safety management approaches to anticipate and mitigate emerging risks
- Prioritize and implement runway safety objectives to reduce the severity, rate, and number of runway incursions at towered airports across the United States
- Measure progress toward goals for improving runway safety
- Improve runway safety data collection, analysis, and reporting.

Approach

The state of runway safety in the United States was examined by analyzing runway incursion trends over a four-year period—CY 1998 through CY 2001. The FAA Office of Runway Safety uses a four-year window of runway incursion data to correspond to the performance goals set forth by the DOT. The FAA currently updates this four-year window of runway incursion trends on a calendar-year basis.

Types of Runway Incursions:

The FAA investigates runway incursions and attributes the occurrence to one or more of the following error types.

Operational Errors	Pilot Deviations	Vehicle/Pedestrian Deviation
<p>An operational error (OE) is an action of an air traffic controller that results in:</p> <ul style="list-style-type: none"> ▶ Less than the required minimum separation between two or more aircraft, or between an aircraft and obstacles (obstacles include vehicles, equipment, personnel on runways). ▶ An aircraft landing or departing on a runway closed to aircraft. 	<p>A pilot deviation (PD) is an action of a pilot that violates any Federal Aviation Regulation. For example, a pilot fails to obey air traffic control instructions to not cross an active runway when following the authorized route to an airport gate.</p>	<p>A vehicle or pedestrian deviation (VPD) includes pedestrians, vehicles, or other objects interfering with aircraft operations by entering or moving on the runway movement area without authorization from air traffic control.</p> <p>NOTE: This runway incursion type includes airline mechanics taxiing aircraft for maintenance or gate re-positioning.</p>

Runway Safety Metrics

The three primary metrics used to assess runway safety trends are: the types of runway incursions, the severity of runway incursions, and the frequency of runway incursions. These metrics were used to examine runway incursion trends on various dimensions, including annual trends, trends for different aircraft operating types, and trends across airports, to provide insight for developing and implementing runway safety management strategies.

Runway Incursion Types

The FAA divides runway incursions into the following three error categories: pilot deviations, operational errors, and vehicle/pedestrian deviations. These categories are not mutually exclusive and are primarily useful for identifying the responsible party in a runway incursion. However, the categories are of limited use in determining *why* a runway incursion happened because they provide no indication of the error mechanisms or factors that contributed to the incursion. The FAA acknowledges that these categories are operationally linked and only identify a single error in a series of events that led to a runway incursion. To obtain more information about the operational context in which the errors occurred, the analysis used information from the narratives of runway incursion reports and a reconstruction of the events on airport diagrams for improved visualization of the chain of events.

Runway Incursion Severity

In CY 2000, the FAA convened a government-industry team of aviation analysts with expertise in air traffic control, airway facilities, airports, flight standards, human factors, and system safety to conduct a systematic review and analysis of

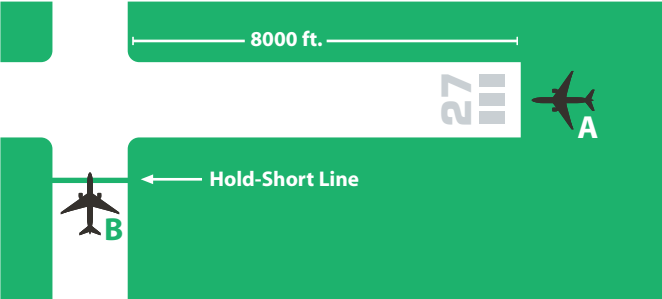
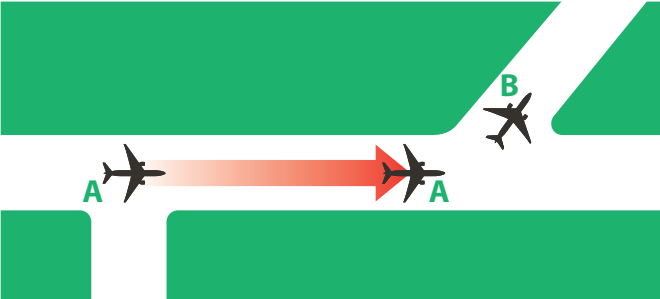
the 1,369 reported runway incursions that occurred from CY 1997 through 2000 and categorized these incidents in terms of severity. This analysis, presented in the *June 2001 Runway Safety Report*, provided the foundation for the continued analysis and classification of runway incursion severity.

During CY 2001, the FAA Office of Runway Safety continued to systematically review the reported runway incursions on a weekly basis. For CY 2001, 383 runway incursions were reviewed and categorized by members of the FAA runway safety team according to the severity of the incident. Each runway incursion was reconstructed using the available information. Events for which only limited information was available were categorized conservatively. Runway incursion locations were also plotted on airport diagrams to visualize the circumstances involved in these events and to assist in categorization.

The importance of assessing runway incursion severity trends is illustrated in the following example of runway incursion profiles.

Runway Incursion Profiles

To appreciate the varying margins of safety for runway incursions, consider the following examples.

CASE 1	CASE 2
This incident meets the definition of a runway incursion, but there is little or no chance of collision.	This is a severe situation where the margin of safety is so low that a collision is barely avoided.
	
<p>Aircraft A is on approach to Runway 27, an 8,000-foot runway. Aircraft B is taxiing to a parking area on the north side of the airport and has been instructed by air traffic control to "hold short of Runway 27" in anticipation of the arrival of Aircraft A. When Aircraft A is on a quarter mile final approach, Aircraft B's pilot informs the controller that he has accidentally crossed the hold-short line for Runway 27. Although he is not on the runway, the aircraft's nose is across the hold-short line, usually 175 feet from the runway.</p> <p>A runway incursion has occurred since separation rules require that a runway be clear of any obstacle before an aircraft can land or take off on that runway. The controller instructs Aircraft A to "go around."</p> <ul style="list-style-type: none"> ■ The potential for a collision is low, but by definition, a runway incursion has taken place. ■ This case exemplifies most frequently reported runway incursions. 	<p>Aircraft A has been cleared to taxi into position and hold on Runway 9 following Aircraft B that has just landed on the same runway and is rolling out. Aircraft B is instructed to turn left at a taxi-way. Aircraft B acknowledges. The controller observes Aircraft B exiting the runway and clears Aircraft A for takeoff. A moment later the controller notices too late that Aircraft B has not fully cleared the runway and in fact appears to have come to a complete stop with much of the aircraft still on the runway.</p> <p>Aircraft A has accelerated to the point it cannot stop and has only the option to fly over the top of Aircraft B.</p> <ul style="list-style-type: none"> ■ The potential for a collision is high and typifies the common perception of a runway incursion. ■ This case is more severe but occurs infrequently.

These examples demonstrate why more descriptive runway incursion categorizations were necessary to capture the different margins of safety—or, conversely, varying degrees of severity—associated with each runway incursion. An accurate portrayal of runway incursion severity trends is essential to finding solutions that target opportunities for error and mitigate the consequences of those errors that do happen.

Underlying these simple case studies is a wide range of variables that dramatically affect the severity of a runway incursion. Of these many variables, five key parameters were selected to add dimension to the evaluation of severity. The five operational dimensions are interdependent; for example, aircraft speed will affect available reaction time (**Figure 1**). These five operational dimensions formed the basis for the development of four runway incursion categories that capture the spectrum of severity. In other words, the runway incursion categories capture the relative margin of safety for a given runway incursion. The categories range from collisions or near collisions to incidental events, labeled A through D, respectively. A description of the four runway incursion severity categories is presented in **Figure 2**.

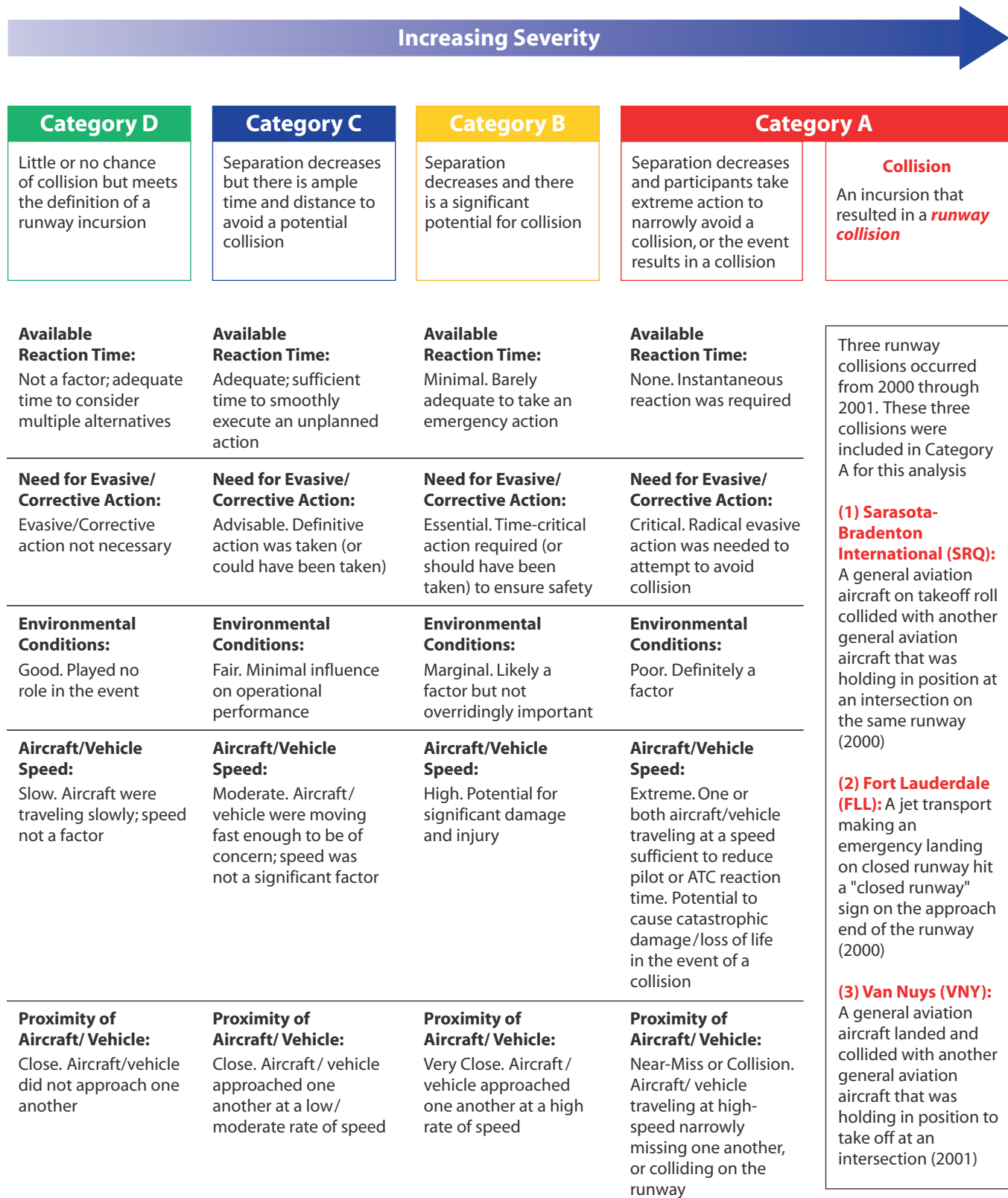
Runway Incursion Frequency

This report references both the number and the rate of runway incursions in discussions of runway incursion trends, whenever possible. Runway incursion trends are most often reported in terms of the number of runway incursions (the number of annual runway incursions, the number of incursions at an airport, and so forth). **Figure 3** shows the total number of operations from CY 1998 through CY 2001 at those United States towered airports that had at least one runway

Figure 1:
Operational Dimensions Affecting Runway Incursion Severity

Operational Dimensions	Description
Available Reaction Time	Available Reaction Time considers how much time the pilots, controllers, and/or vehicle operators had to react to the situation based on aircraft type, phase of flight, and separation distance
Evasive or Corrective Action	Evasive or Corrective Action considers the need for and type of evasive or corrective maneuvers required to avoid a runway collision by pilots and/or air traffic controllers
Environmental Conditions	Environmental Conditions consider visibility, surface conditions, and light conditions
Speed of Aircraft and/or Vehicle	Speed of Aircraft and/or Vehicle—speed as a function of aircraft type and phase of flight (taxi, takeoff, landing)
Proximity of Aircraft and/or Vehicle	Proximity of Aircraft and/or Vehicle, or their separation distance from one another

Figure 2:
Runway Incursion Severity Categories



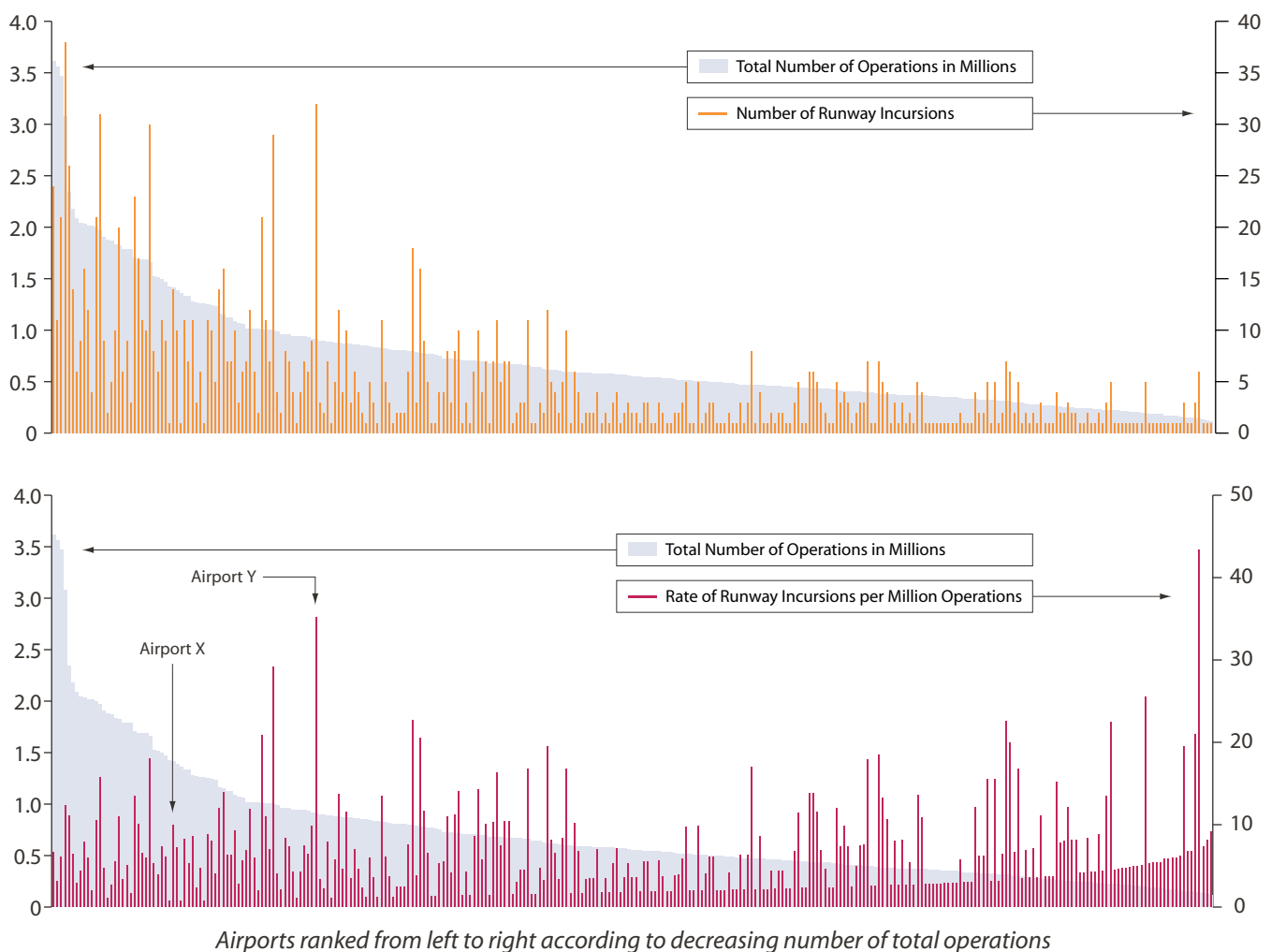
incursion during this period (in descending order). This figure also illustrates the variation in the number and rate of runway incursions across airports as the number of airport operations decreases. The differences in the total number of airport operations (traffic volume) account for 48 percent of the variation in the number of runway incursions among airports. This is not surprising because, as traffic volume increases, the possible operational scenarios and opportunities for error increase substantially; that is, each additional aircraft operation represents one potential added interaction with each existing aircraft on the surface.

However, as shown in **Figure 3**, traffic volume alone is far from being a perfect indicator of runway incursion potential. Airport-specific factors—for example, infrastructure, procedures, operations, and training—also influence the potential occurrence of different runway incursion scenarios by providing either opportunities for or defenses against human errors and their consequences.

Traffic volume explains some of the variation in the number and rate of runway incursion at airports across the U.S. However, airport-specific operations, procedures, and infrastructure also contribute to the variation in runway incursions among airports.

Figure 3.

The relationship between traffic volume and runway incursion number and rate at U.S. Towered Airports (CY 1998 through CY 2001)



The rate of runway incursions is another useful metric for runway safety management. The runway incursion rate enables comparisons of runway incursion trends between airports and across time periods, as the rate accounts for the variations in traffic volume. The runway incursion rate offers valuable information on how an increase (or a decrease) in traffic volume at a specific airport may affect the number of runway incursions at that airport. For example, an equivalent increase in the number of airport operations at airports X and Y (**Figure 3**) would be expected to produce a larger number of runway incursions at airport Y because airport Y has a higher runway incursion rate. The opposite conclusion would be drawn if traffic volume were the only factor considered, as airport X has a greater number of total airport operations.

Annual runway incursion rates for airports with a relatively low number of airport operations—such as airports with less than 100,000 operations per year—are typically more sensitive and must be interpreted with this consideration in mind. For example, one additional runway incursion would have a greater effect on the annual runway incursion rate for smaller airports with lower traffic volumes than it would on the rates of busier airports. Consider two airports (one large airport and one small airport) that each had runway incursion rates of two incursions per 100,000 operations for CY 2000. The larger airport had 200,000 annual operations and four runway incursions, whereas the smaller airport had only 50,000 annual operations and one runway incursion. Suppose that the number of runway incursions at each of these airports increased by one the next year and the total number of operations remained the same. The annual runway incursion rate at the large airport would increase from 2.0 to 2.5 runway incursions per 100,000 operations (a 25 percent increase), whereas the runway incursion rate at the small airport would increase from 2.0 to 4.0 runway incursions per 100,000 operations (a 100 percent increase).

Although the number and rate of runway incursions offer some indication of the potential runway incursion risk, these metrics do not provide an indication of the margin of safety associated with these events. To provide a more comprehensive evaluation of runway safety, the number and rate of runway incursions must be examined in conjunction with runway incursion severity, as previously defined.

Runway Incursion Analyses

The runway safety metrics were used to analyze runway incursion trends for CY 1998 through CY 2001, with emphasis on comparing CY 2001 trends with CY 2000 trends. This four-year period provided the most complete and consistent FAA data for runway incursions at United States towered airports.

Data Sources

Runway incursion data were drawn from the FAA's Surface Incident database and the FAA's National Airspace Incidents Monitoring System (NAIMS) database and

used to assess the severity of runway incursion trends nationwide. The data pulled from these two databases yielded the 1,460 runway incursion incidents that are the subject of this analysis.

The NAIMS database is a repository of aviation incidents and facilitates the open exchange of information in order to promote aviation safety. It includes all of the pilot deviations, operational errors, and vehicle/pedestrian deviations that occur in the NAS both on the surface and in the air. The FAA Office of Runway Safety also classifies a portion of these pilot deviations, operational errors, and vehicle/pedestrian deviations contained in the NAIMS database as runway incursions.

The FAA Office of Runway Safety maintains a more specific database that contains detailed information for all surface incidents including those events classified as runway incursions. This Surface Incident database uses the final reports from the NAIMS database to produce a more pertinent and useful source of runway incursion information, and was the primary data source for this report.

Trend Analyses

Runway incursions were examined in aggregate across the four severity categories for CY 1998 through CY 2001. This aggregate distribution was then decomposed by year to focus on changes in severity and frequency from CY 2000 to CY 2001. Annual pilot deviations, operational errors, and vehicle/pedestrian deviations were analyzed according to their respective runway incursion severity categorizations to identify any trend differences across the runway incursion types.

The report also presents trends for the different aircraft operating types represented in the NAS—general aviation, commercial, and military operations—to address the specific perspectives of these constituents. This differentiation was also necessary to examine interactions among different kinds of aircraft operations from CY 1998 through CY 2001, as well as the annual variations. A simplified categorization was adopted this year using the standard FAA descriptions of aircraft operations—commercial, general aviation, and military. For simplicity, these operations are represented in this report using the following abbreviations:

COMM – Commercial operations are scheduled or charter for-hire aircraft used to carry passengers or cargo. These aircraft are typically operated by airlines, air cargo, and charter services.

- *Jet Transport (JT)* – Jet transports are large airplanes that are commercially operated by scheduled air carriers. Examples of jet transports include the Boeing 737-, 747-, 757-, 767-series of aircraft, and the Airbus 300-, 310-series.
- *Commuter (CR)* – Commuter aircraft are also commercially operated by scheduled air carriers but are usually smaller and carry fewer passengers than the typical jet transport aircraft. Examples of commuter aircraft include the Embraer 120 and 145, and the Saab 340.

GA – General aviation operations encompass the full range of activity from the student pilot flying solo for the first time to the multi-hour, multi-rated pilot flying the most complicated airplane for pleasure. GA operations may include aircraft that are used primarily for personal or recreational flying, as well as those aircraft often used on a for-hire basis to transport passengers—for example, charter or corporate transportation.

MIL – Military operations include all United States military operations at civilian towered airports.

Runway incursions that involved vehicles and pedestrians are presented with respect to the types of aircraft that interacted with vehicles and pedestrians on the airport surface.

Finally, airport trends are presented to foster a better understanding of how airport-specific attributes may affect runway safety by providing opportunities for, or defenses against, runway incursions. The unique combination of airport configurations, infrastructure and technology, local air traffic procedures—and external stressors such as weather, traffic mixture, and traffic density—interact to create airport-specific runway incursion opportunities. These potential interactions must be understood for proactive risk mitigation.

FINDINGS

Frequency of Runway Incursions

Figure 4 depicts the number and rate of reported runway incursions at United States towered airports from CY 1998 through CY 2001. There were 383 incursions in CY 2001 compared to a four-year high of 431 runway incursions in CY 2000. In CY 2001, the total number of runway incursions decreased by 48 events—an 11 percent reduction. The nationwide rate of runway incursions also decreased from 6.4 to 5.9 incursions per million operations in CY 2001—an 8 percent improvement.

Figure 4: Number and Rate of Runway Incursions reported (CY 1998–CY 2001)

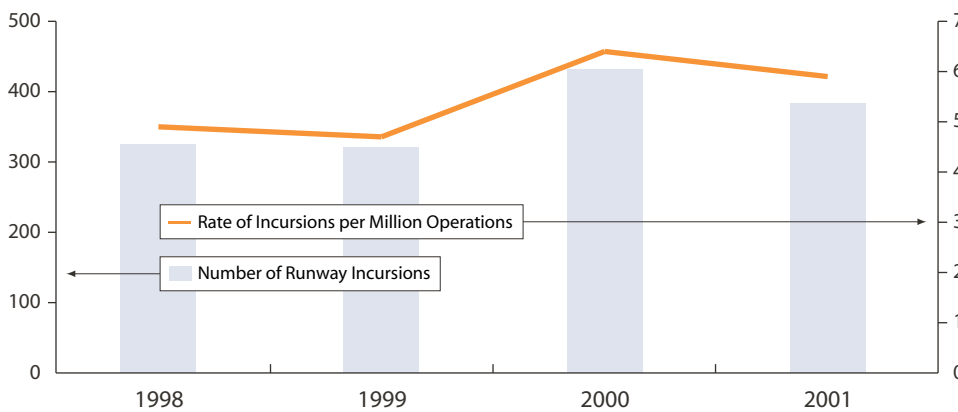
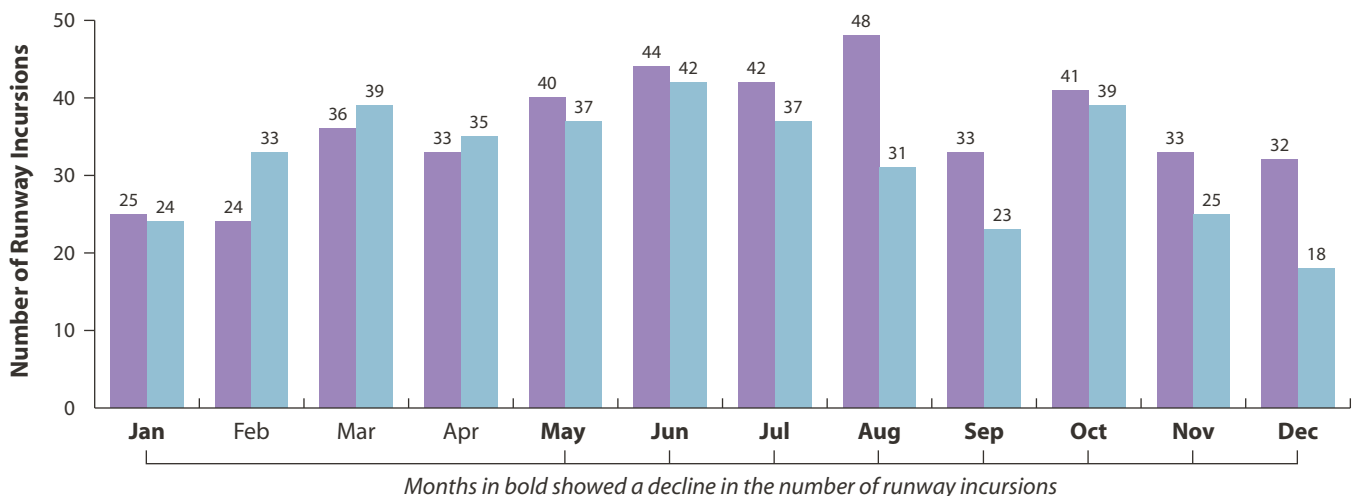


Figure 5 shows the change in the number of runway incursions for the respective months from CY 2000 to CY 2001—for example, 14 fewer runway incursions occurred in December 2001 than in December 2000. By matching the respective months of each year, this analysis accounts for some of the influence traffic volume may have on runway incursion trends as there were similar variations in monthly traffic volume across the four years examined (the primary exception being September 2001).

Figure 5: Changes in the Number of Runway Incursions for Respective Months in CY 2000 and CY 2001



There were 48 fewer runway incursions in CY 2001 compared to CY 2000, and an 8 percent reduction in the nationwide runway incursion rate.

The decline in the number of runway incursions for respective months in CY 2001 versus CY 2000 began in May 2001. This comparative analysis suggests that other factors—besides the events of September 11 and the 3 percent decrease in traffic volume in CY 2001—contributed to this effect.

NAS Operations and the Impact of September 11, 2001

Following the September 11, 2001 terrorist attacks on the United States, there was a notable impact on NAS operations—airports were temporarily closed and the demand for air travel declined. Overall, there were approximately 3 percent fewer aircraft operations in CY 2001 than in CY 2000. Figure A shows that this overall decline in the total number of operations is primarily attributed to 28 percent fewer traffic operations in September 2001 than in September 2000. However, over the past four years, there have been similar monthly fluctuations in traffic volume and consistent declines in traffic operations in the fourth quarter of each year.

Figure B shows the monthly variations in traffic volume for CY 2001 versus CY 2000 for the three principal categories of aircraft operations within the NAS—general aviation operations, commercial operations, and military operations. General aviation operations represented the largest proportion of NAS operations. The monthly fluctuations in the number and type of aircraft operations were consistent for CY 2000 and CY 2001 until September 2001. The decline in the total number of aircraft operations following the events of September 11, 2001 was primarily driven by the 35 percent decline in general aviation operations in September 2001. However, by December 2001, the total number of general aviation operations exceeded the December 2000 total. Commercial operations

Figure A.

Monthly Variations in Traffic Volume for CY 1998 through CY 2001

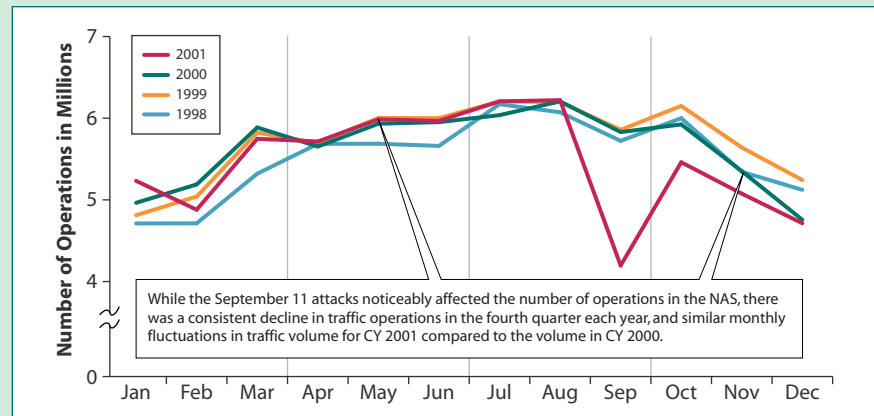
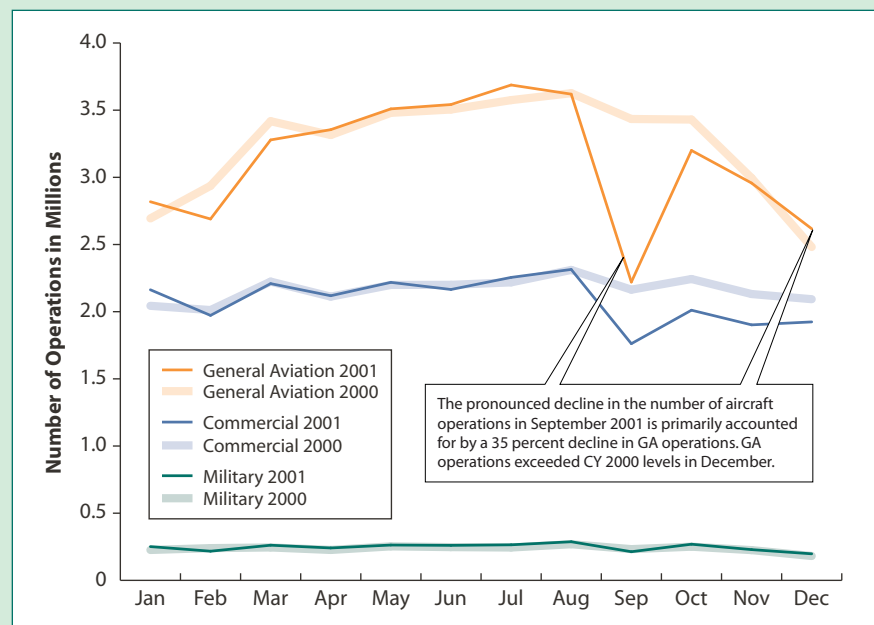


Figure B.

Traffic Volume and Types of Aircraft Operations at Civilian and Joint-Use Airports: CY 2000 and CY 2001



showed a 19 percent decline in September 2001 compared to September 2000, and had not yet returned to CY 2000 levels by the end of the year.

While the change in volume and composition of post-September 2001 NAS operations likely had some effect on runway incursion trends, the overall monthly variations in traffic volume for CY 1998 through CY 2001 were similar, with the exception of September 2001. This suggests that the changes in runway incursion trends in CY 2001 cannot be fully explained by the immediate decline in traffic volume following the events of September 11th.

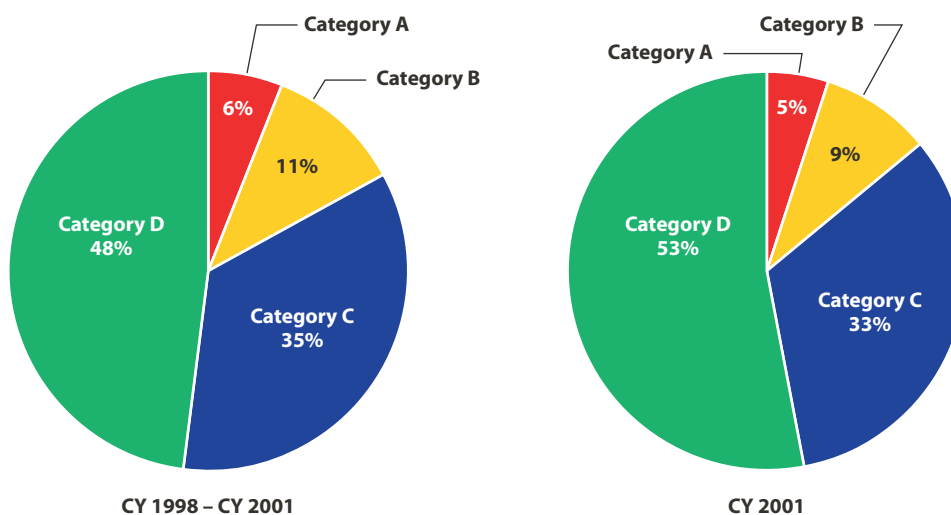
The findings show that runway incursions declined in nine of the months in CY 2001 compared to incursions in the corresponding months in CY 2000. Beginning in May 2001, the number of runway incursions was consistently lower in the months of CY 2001 compared to the incursions in the respective months in CY 2000. The most pronounced decrease occurred in August—with 17 fewer runway incursions in August 2001 than in August 2000. These findings imply that additional factors—aside from a decline in post-September 2001 traffic volume—contributed to this improvement.

Severity of Runway Incursions

Figure 6 shows the CY 2001 distribution of runway incursions by severity category. The CY 2001 runway incursion severity distribution is similar to the aggregate, four-year severity distribution, and the majority of runway incursions continue to involve Category C or D events.

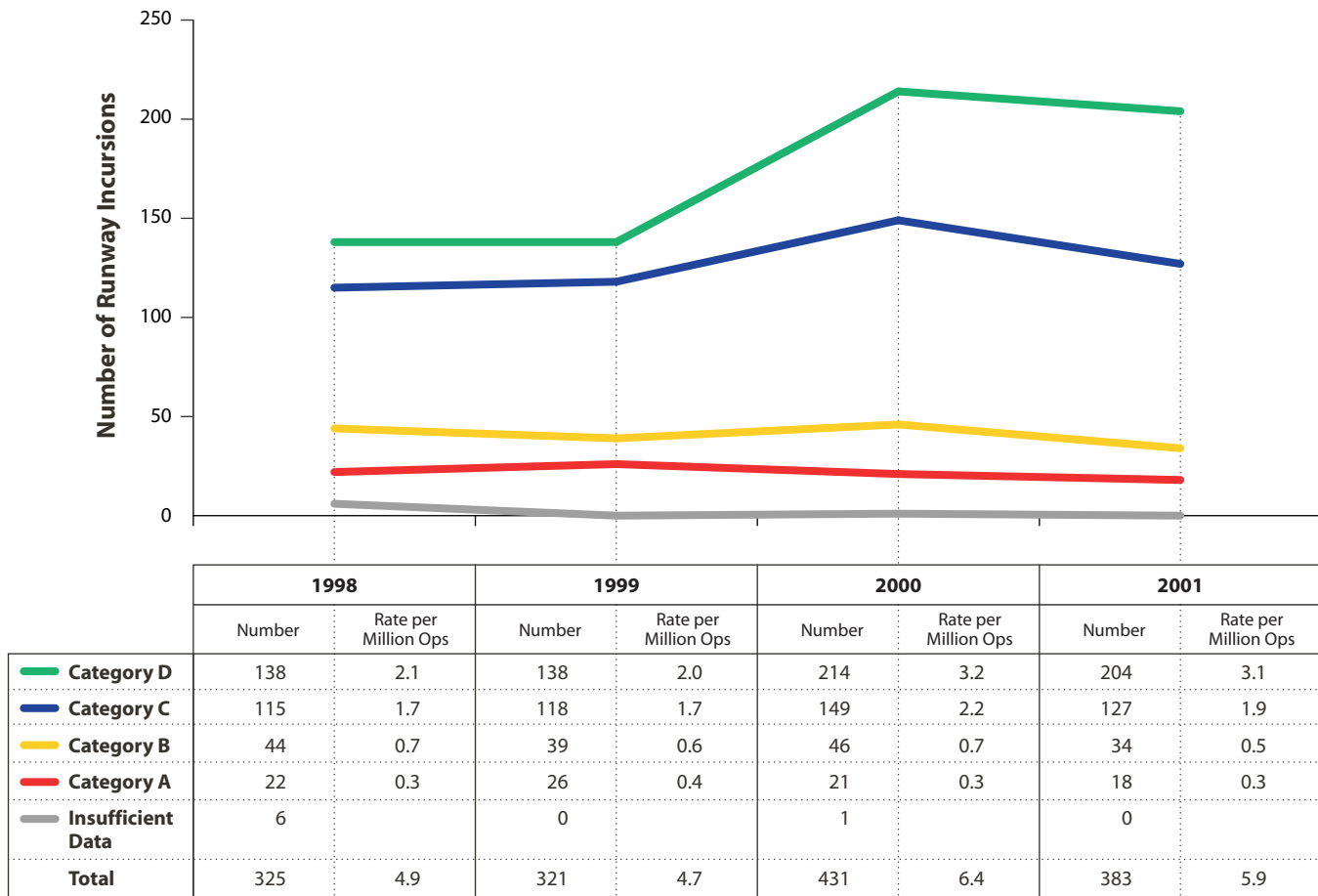
Figure 6:

Runway Incursion Severity Distribution



The distribution of runway incursion severity in CY 2001 is similar to previous years and comprises primarily Category C and D events.

Figure 7 presents runway incursion trends by severity categories for the past four years. In CY 2001, there was a decrease in the number of runway incursions in every severity category compared to CY 2000. The majority of the decrease in the number of runway incursions in CY 2001 is attributed to a reduction in Category B and C events, which decreased by 28 percent and 15 percent, respectively.

Figure 7:*Annual Number and Rate of Reported Runway Incursions by Severity Category*

The decrease in the number of runway incursions for CY 2001 is mostly attributed to a reduction in the number of Category B and C events.

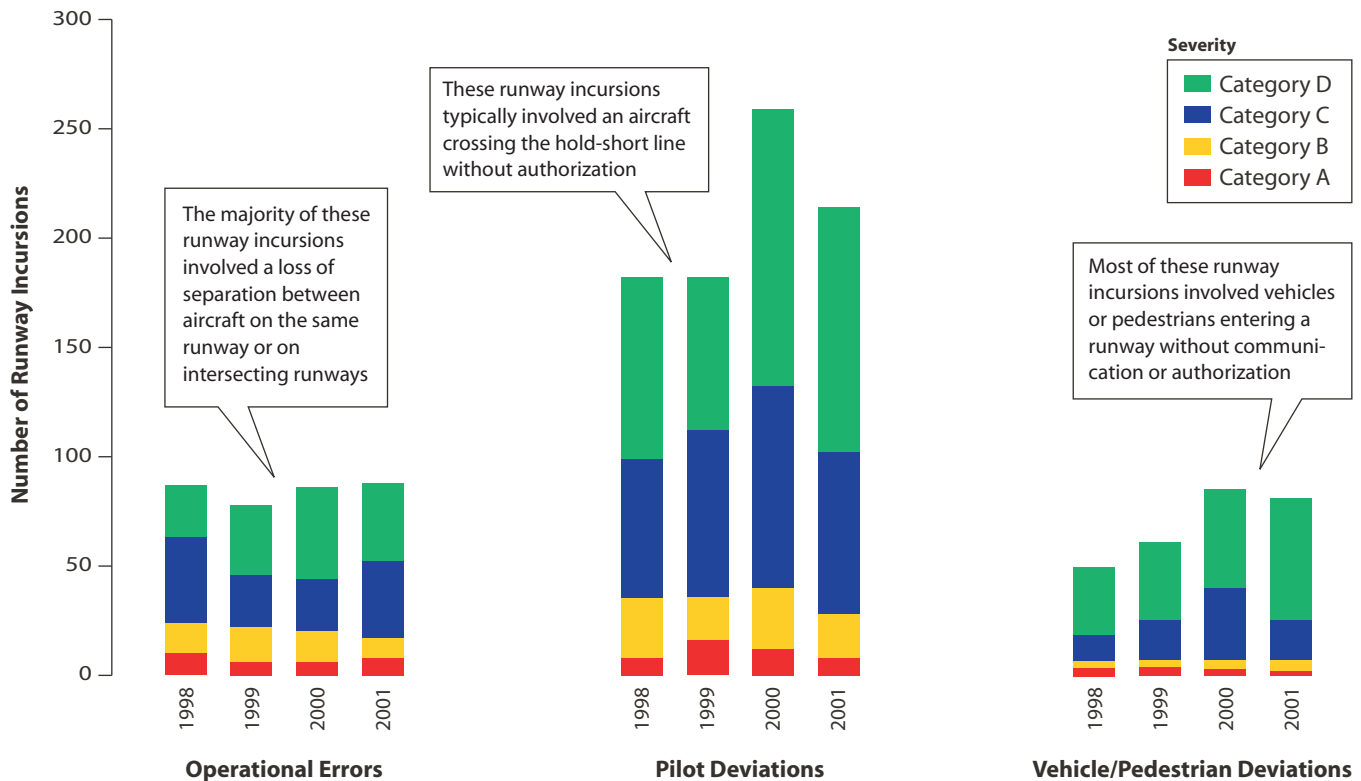
Types of Runway Incursions

Figure 8 illustrates the trends for the three types of runway incursions—operational errors, pilot deviations, and vehicle/pedestrian deviations.

Operational Errors

Of the runway incursions that occurred from CY 1998 through CY 2001, 343 incidents (23 percent) were attributed to operational errors. In CY 2001, 88 runway incursions were attributed to operational errors—an increase of one event compared to the number of operational errors in CY 2000. Although the number of runway incursions attributed to operational errors reached a four-year low of 78 events in CY 1999, the number of these incursions showed little change for the remaining three years and ranged from 86 to 88 occurrences. The severity of these operational errors also showed only minor improvement from CY 2000 to CY 2001 compared to the previous year—the total number of Category A and B events declined by three in CY 2001.

Figure 8:
Types of Runway Incursions for CY 1998 through CY 2001



Additional details were available for 320 of the 343 runway incursions attributed to operational errors, allowing these events to be evaluated more closely. Of these 320 incidents, 173 events resulted in the loss of arrival/departure separation on the same runway/intersecting runways. Forty-two incidents involved clearing an aircraft to land or depart the runway concurrent with another aircraft that was cleared to cross the same runway. Miscommunications, such as “hear back/read back” errors, were cited as a contributing factor in another 44 incidents. The remaining 61 events consisted of errors such as mistaking the location of an aircraft or vehicle on or near a runway, and clearing an aircraft to use a closed runway for arrival or departure.

Pilot Deviations

For the four-year period studied, 840 runway incursions (58 percent) were attributed to pilot deviations. There were 45 fewer reported pilot deviations in CY 2001 than in the previous year—a 17 percent reduction. The severity of the pilot deviations also showed improvement—in particular, the total number of Category A and B pilot deviations declined by 12 events in CY 2001. Pilot deviations were the only runway incursion type that showed reductions in both severity and frequency.

Pilot deviations were the only runway incursion type that showed a reduction in severity and frequency in CY 2001.

Additional information was available for 638 of the 840 pilot deviations reported during this four-year period, allowing these incidents to be evaluated in detail. Of these 638 pilot deviations, 485 involved crossing the hold-short line or entering the runway after acknowledging hold-short instructions from air traffic control. Eighty-three incidents involved taking off without a clearance after acknowledging “taxi into position and hold” instructions. The remaining 70 pilot deviations included incidents such as an arriving aircraft landing over another aircraft in position on the runway and awaiting takeoff clearance, and landing or departing on the wrong runway, on runways that were closed, or on taxiways.

Vehicle/Pedestrian Deviations

From CY 1998 through CY 2001, 277 runway incursions were attributed to vehicle or pedestrian deviations. In CY 2001, the number of vehicle and pedestrian deviations declined by four events compared to those in CY 2000. The number of vehicle and pedestrian deviations that resulted in Category A and B runway incursions remained unchanged, with a total of seven Category A and B events in both CY 2000 and CY 2001.

Sufficient information was available to evaluate the details of all 277 vehicle/pedestrian deviations that occurred from CY 1998 through CY 2001. More than half of these 277 incidents (166 events) involved vehicles or pedestrians entering a runway without communication or authorization—43 percent involved privately owned vehicles, 25 percent involved airport vehicles, 24 percent involved pedestrians, and 8 percent involved construction vehicles. The remaining 111 deviations involved airport vehicles (for example, fuel trucks, tugs towing aircraft, and fire vehicles) or aircraft being taxied by maintenance personnel that acknowledged hold-short instructions but failed to hold short of a runway.

The percentage of runway incursions involving a specific type of aircraft operation was in proportion to the representation of that aircraft operation in the NAS.

Figure 9:

Comparison of Aircraft Operations in the NAS and their Involvement in Runway Incursions

Aircraft Operation Types	CY 1998 – CY 2001		CY 2001	
	Percentage of NAS Aircraft Operations	Percentage of Type Involved in Runway Incursions	Percentage of NAS Aircraft Operations	Percentage of Type Involved in Runway Incursions
Commercial	38	33%	38	31%
General Aviation	58	65%	57	66%
Military	4	2%	5	3%

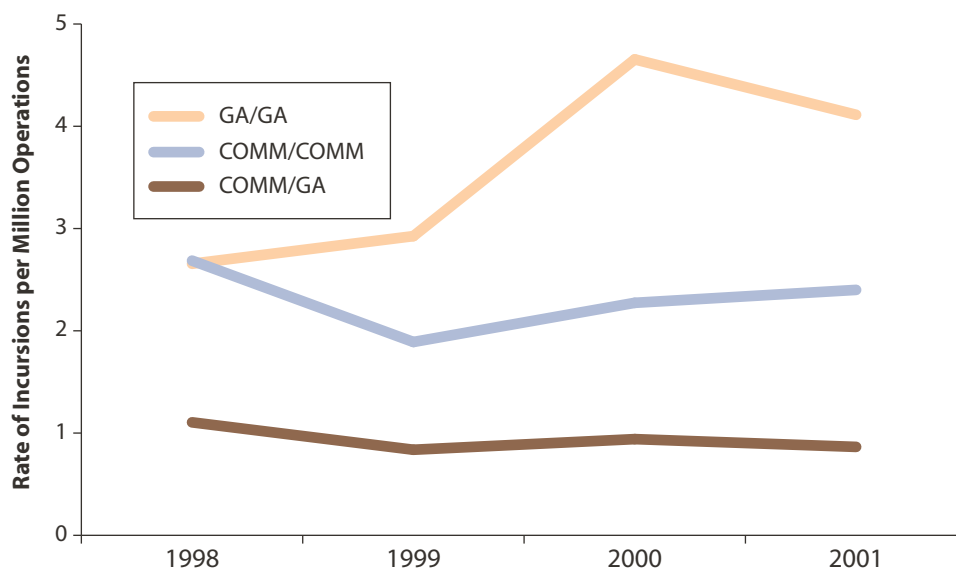
Trends for Types of Aircraft Operations

The three types of aircraft operations—general aviation, commercial, and military—were examined to determine their involvement in the reported runway incursions during the four-year period. **Figure 9** shows the distribution of the different aircraft operations that were involved in runway incursions. From CY 1998 through CY 2001, the proportion of the different aircraft operations involved in runway incursions was similar to the proportion of these aircraft operations in the NAS. For example, 65 percent of the aircraft involved in runway incursions from CY 1998 through CY 2001 were general aviation aircraft and either another general aviation aircraft (GA/GA), a commercially operated aircraft (GA/COMM), or a military operated aircraft (GA/MIL). General aviation aircraft also represented 58 percent of total NAS operations in the same period. Similarly, 33 percent of the aircraft involved in runway incursions were commercial aircraft (COMM), and these aircraft represented 38 percent of aircraft operations in the NAS in the same four-year period. Although this trend is consistent with the past four years in aggregate, the pairs of aircraft involved in these runway incursions must be examined to develop targeted runway safety management strategies that address the unique aspects of specific aircraft operations.

Figure 10 presents the annual trends in runway incursion rates for the general aviation and commercial aircraft operations from CY 1998 through CY 2001 to provide a detailed look at the yearly variations. Trends in runway incursion rates for the four years indicate that runway incursions most frequently involved either two general aviation aircraft (GA/GA) or two commercial aircraft (COMM/COMM).

Figure 10:

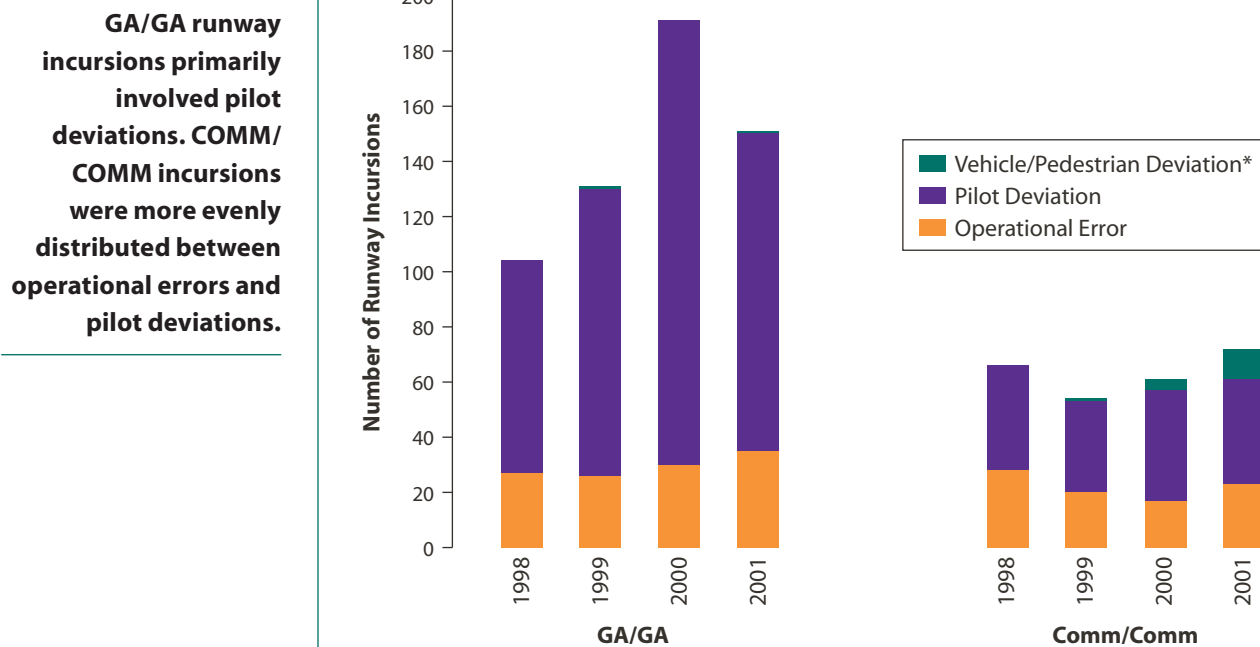
Rates of Runway Incursions for General Aviation and Commercial Aircraft Operations



In CY 2001, the rate of GA/GA incursions declined 12 percent from the previous year's rate, whereas the rate of COMM/COMM incursions increased 6 percent.

Figure 11:

Common Pairs of Aircraft Operations Involved in Runway Incursions by Type of Incursion



*The VPD events in this figure include deviations that occurred when an aircraft was being taxied by a mechanic for maintenance purposes or gate re-positioning

In CY 2001, the rate of GA/GA incursions declined 12 percent from the rate in the previous year whereas the rate of COMM/COMM incursions increased 6 percent. In CY 1998, the rates of GA/GA and COMM/COMM incursions were similar. In CY 1999, the rate of COMM/COMM incursions declined to a four-year low of 1.9 incursions per million operations and has risen over the past two years to a four-year high of 2.4 incursions per million operations in CY 2001. Runway incursions involving general aviation aircraft rose in CY 1999, increased to a four-year high of 4.7 per million operations in CY 2000, and declined to 4.1 per million operations in CY 2001. The differing trends for commercial and general aviation operations may require tailored runway safety strategies that are sensitive to the attributes of each type of operation—for example, air traffic control procedures for handling these operations, the airports that primarily serve each of these operations, and the factors contributing to these runway incursions.

Figure 11 presents the types of runway incursions for the most common pairs of aircraft operations involved in a runway incursion, GA/GA and COMM/COMM. In contrast to GA/GA runway incursion trends that predominantly involved pilot deviations, runway incursions involving two commercial aircraft were more proportionally attributed to both pilot deviations and operational errors. This finding reinforces the need for runway safety strategies that engage both pilots and controllers, as each agent represents both an opportunity for and a defense against human error.

The vehicle and pedestrian deviations occurred when an aircraft was being taxied by a mechanic for maintenance purposes or gate repositioning. Additional investigation of airport-specific operations and the local air traffic control procedures will offer an understanding of the alternatives for mitigating these types of incursions.

General Aviation Operations

Figure 12 presents the runway incursions in which at least one general aviation aircraft was involved. The chart also identifies the second aircraft involved in the incursion. For example, JT/GA shows that a jet transport and a general aviation aircraft were involved in 36 runway incursions in CY 2001.

Figure 12 shows that general aviation aircraft most often are involved in runway incursions with another general aviation aircraft as opposed to a jet transport or commuter aircraft. This is due in part to the airports where these aircraft operate—general aviation aircraft tend to be operated primarily out of airports that do not serve jet transport or commuter aircraft.

Given that two general aviation aircraft are the most common pair of aircraft involved in a runway incursion and that the most common type of runway incursion is a pilot deviation, the airports that commonly exhibited these two variables were evaluated. **Figure 13** presents the airports where pilot deviations occurred and resulted in runway incursions between two general aviation aircraft. Nation-wide, 188 airports reported at least one pilot deviation that involved two general

From CY 1998 through CY 2001, 577 runway incursions (40 percent) involved two general aviation aircraft; 86 percent of these incursions were Category C and D events.

Figure 12:

General Aviation Aircraft Involved in Runway Incursions

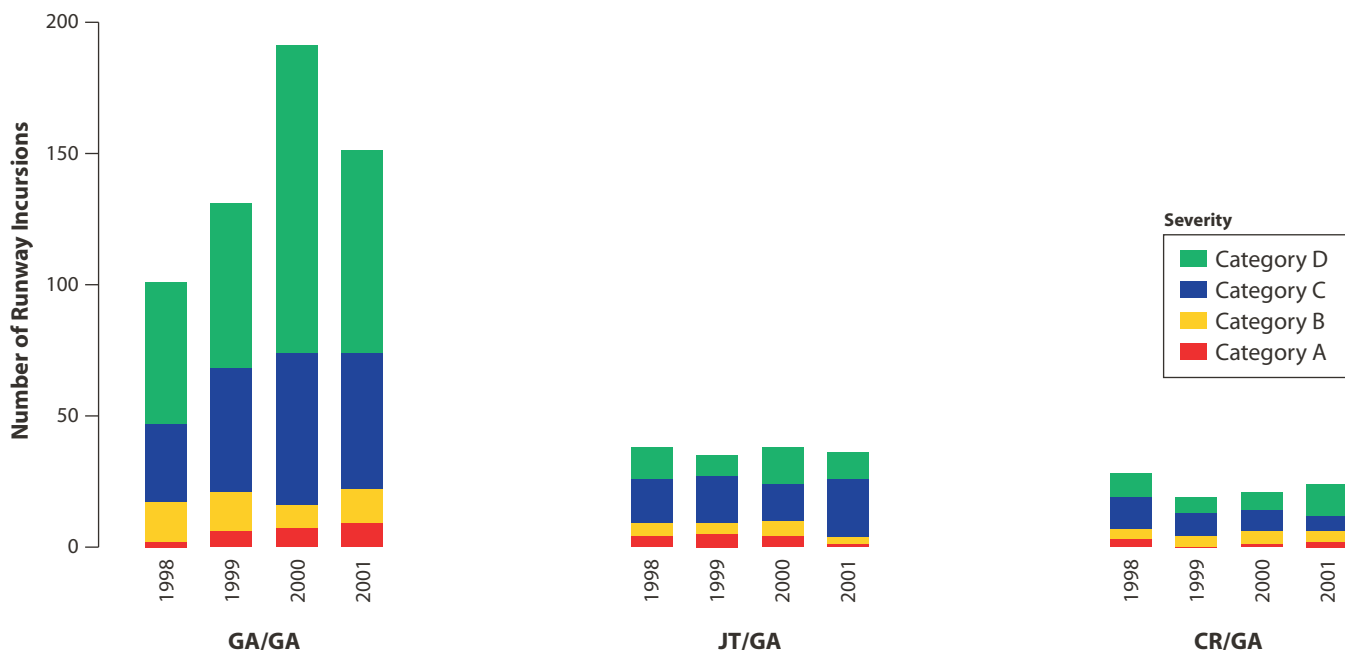
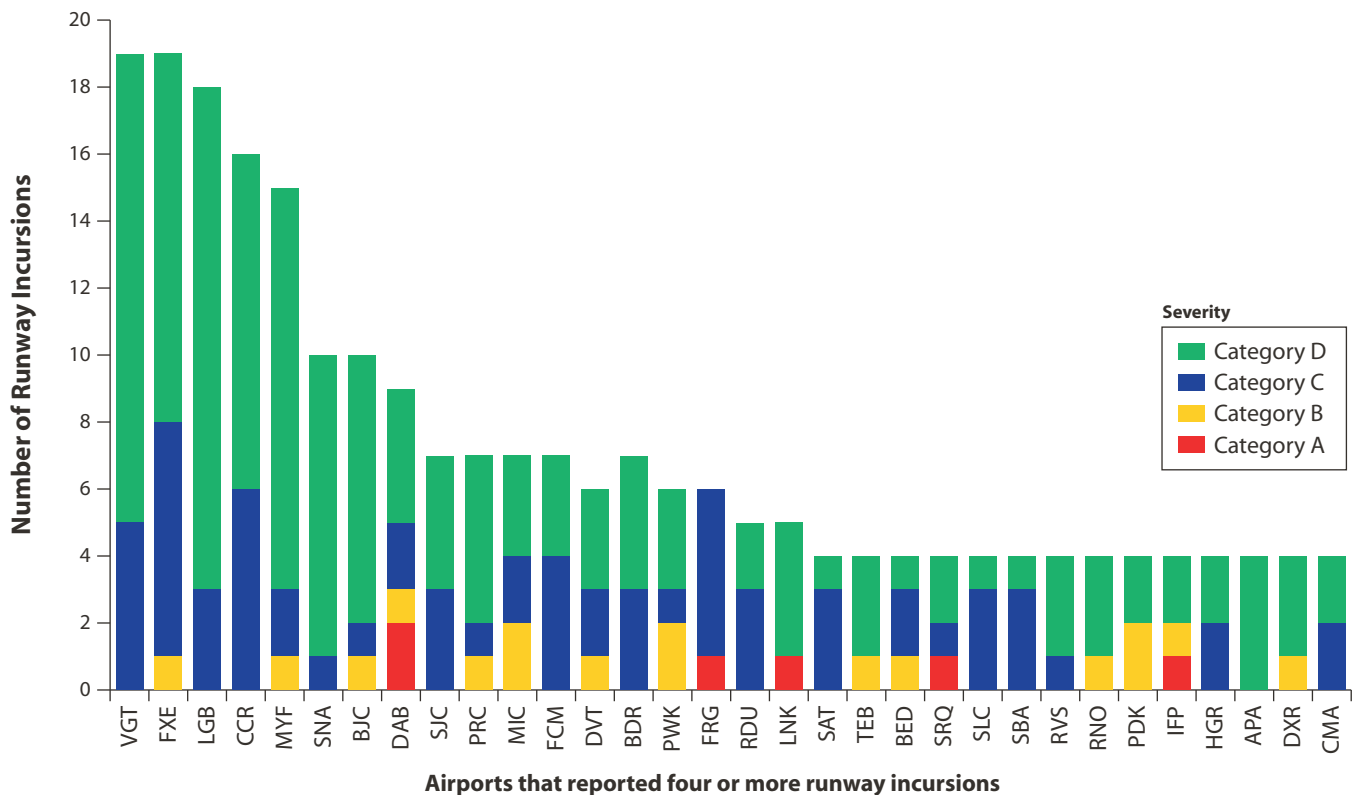


Figure 13:

Pilot Deviations Involving Two General Aviation Aircraft from CY 1998 through CY 2001



The 188 airports reporting pilot deviations involving two general aviation aircraft managed 49 percent of the aircraft operations in the NAS from CY 1998 through CY 2001.

aviation aircraft. These airports managed 49 percent of the aircraft operations from CY 1998 through CY 2001.

The observation that the most common type of runway incursions occurred between two similar types of aircraft—such as two general aviation aircraft or two commercial aircraft—is not surprising when two key points are considered. First, many of the airports listed in **Figure 13** are entirely general aviation airports and have no commercial operations. Second, at towered airports with a mixture of operations, air traffic control sets apart larger, faster aircraft from smaller aircraft, to the extent possible, for a more efficient operation. A larger, faster aircraft following a smaller, slower aircraft creates additional workload and requires closer monitoring by air traffic control. The air traffic control strategy of trying to “bunch together” aircraft with similar performance characteristics offers more opportunity for similar types of aircraft to be involved in a particular incident.

GA/GA runway incursions were further identified as either involving a small general aviation aircraft (less than 12,500 lbs maximum takeoff weight) or large general aviation aircraft (maximum takeoff weight greater than or equal to 12,500 lbs). The small general aviation aircraft tend to be single-piloted aircraft such as a Cessna 152 or Piper Cherokee. The large general aviation aircraft tend to be

represented by corporate or executive aircraft and a two-person flight crew—for example, a Learjet LR55 or a Cessna Citation C550.

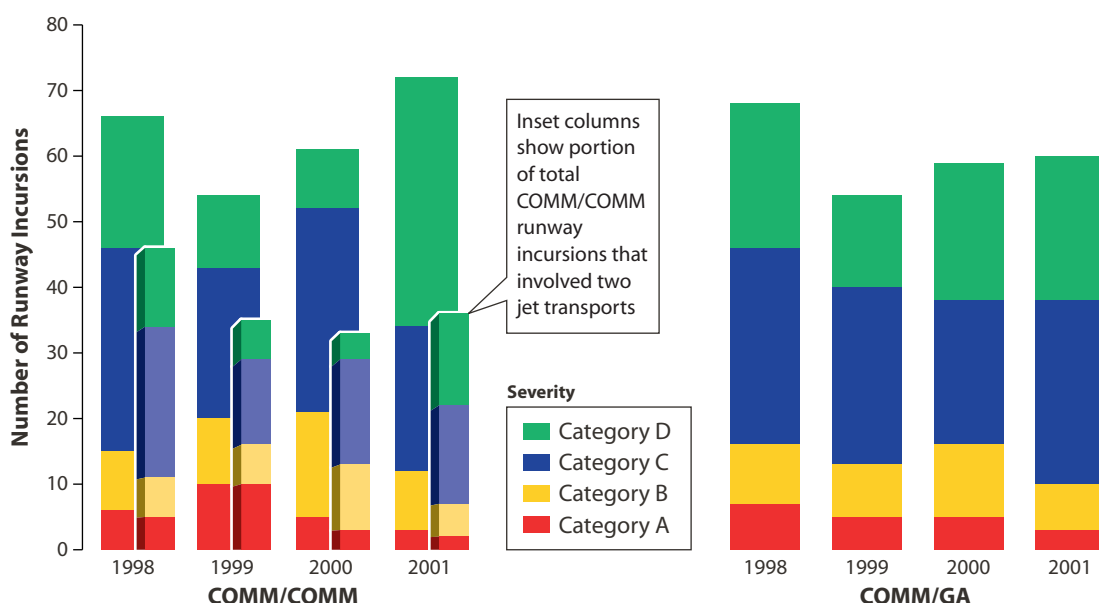
Further investigation of the information presented in **Figure 13** found that these aircraft are typically two small general aviation aircraft. From CY 1998 through CY 2001, 335 GA/GA pilot deviations (58 percent) involved two small general aviation aircraft, and 84 percent of these incursions were Category C and D events. Two small general aviation aircraft were involved in pilot deviations at 153 of the 188 airports that reported GA/GA pilot deviations during this four-year period. As these aircraft are generally flown by single pilots as opposed to a flight crew, a better understanding is needed regarding the influence of pilot workload in these runway incursions. An enhanced data collection process is required to capture relevant human performance information to achieve this level of understanding.

Commercial Aircraft Operations

Figure 14 presents the runway incursions involving at least one commercial aircraft and a second aircraft that is either another commercial aircraft or a general aviation aircraft. As stated earlier, the second most common runway incursions involved two commercial aircraft (COMM/COMM). Further analyses revealed that when two commercial aircraft were involved, they were most often two jet transports (JT/JT). Two jet transports were involved in a total of 150 runway incursions (10 percent) from CY 1998 through CY 2001. In CY 2001, there were 36 JT/JT runway incursions, or approximately one incursion every ten days. Of these 36 JT/JT runway incursions, seven were Category A and B events.

In CY 2001, there was approximately one runway incursion involving two jet transports every ten days.

Figure 14:
Severity of Runway Incursions Involving Commercial Aircraft



Trends by Vehicle and Pedestrian Activity on the Airport

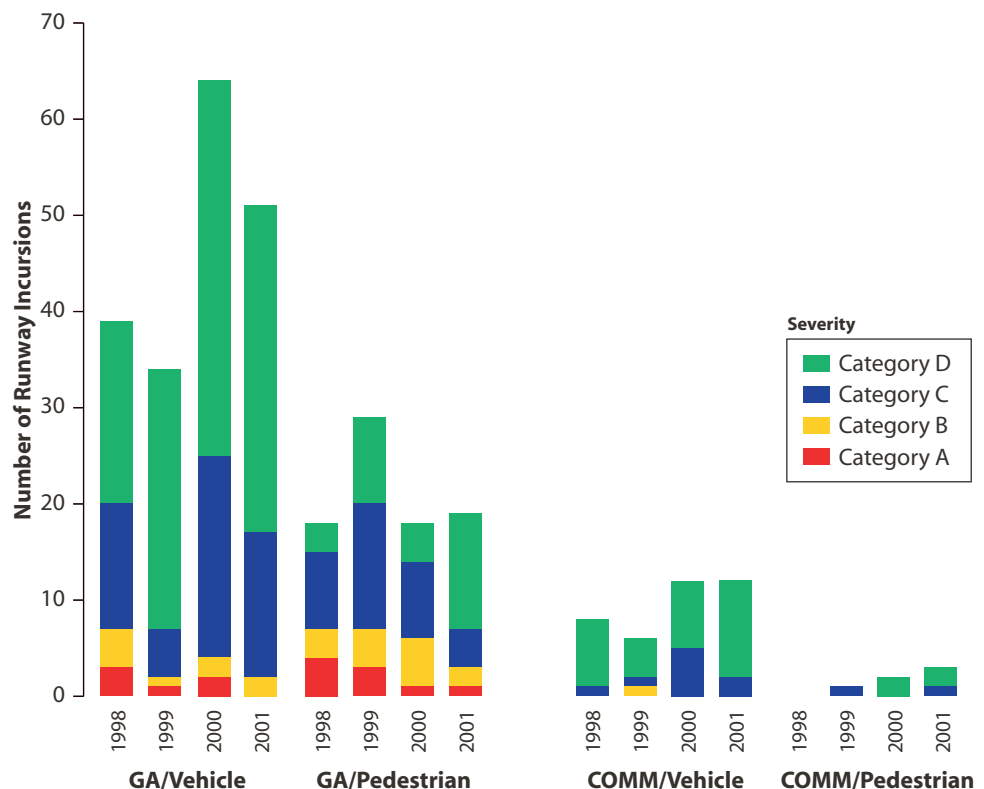
Figure 15 presents the 316 runway incursions from CY 1998 through CY 2001 that involved a vehicle or pedestrian. These incidents are inclusive of all runway incursions with a vehicle or pedestrian, regardless of whether the event was attributed to an error made by these parties, air traffic controllers, or pilots. In the majority of these events (72 percent), vehicles and pedestrians were involved in a runway incursion with a general aviation aircraft. There were 14 fewer runway incursions involving vehicles or pedestrians in CY 2001 than in CY 2000.

The differences in trends for vehicles and pedestrians interacting with general aviation aircraft and commercial aircraft warrant further investigation. An examination of local airport operations may help identify attributes that represent opportunities for vehicles or pedestrians and these aircraft to interact, as well as the safeguards for preventing potential incursions. For example, vehicle and pedestrian operations may be more segregated from aircraft operations at some airports, offering less opportunity for these types of runway incursions to happen. In addition, vehicle and pedestrian activity may become more restricted due to increased airport security measures, which will also reduce the opportunity for their involvement in runway incursions.

Figure 15:

Vehicles and Pedestrians Involved in Runway Incursions from CY 1998 through CY 2001

When vehicles or pedestrians were involved in runway incursions, most of these events also involved a general aviation aircraft.



Airport Trends

Runway incursion trends were examined at an airport level to understand how airport-specific factors may influence the severity, rate, number, and type of runway incursions. Although runway safety objectives need to be implemented at the airport level, measurable improvements to airport-specific runway incursion numbers will not be immediately evident because runway incursions are infrequent events and reliable airport-level trends will take time to evolve.

Of the 488 civilian towered airports in the United States, 404 airports either had no incursions or reported five or fewer runway incursions for the four-year period (Figure 16). The three airports that had the greatest number of runway incursions for the four-year period were Los Angeles International, St. Louis–Lambert International, and North Las Vegas Airport. All airports with at least one runway incursion from CY 1998 through CY 2001 are listed in the Appendix of this report.

The FAA has identified 32 airports as “benchmarks” for monitoring capacity and safety trends. These airports are cited in the *FAA Capacity Benchmark Report for CY 2001* and include 28 of the 32 busiest airports (based on the total number of operations for CY 1997 through CY 2000) discussed in the *June 2001 FAA Runway Safety Report*. These 32 benchmark airports were used to evaluate runway safety trends to support future analyses of potential tradeoffs between safety and capacity.

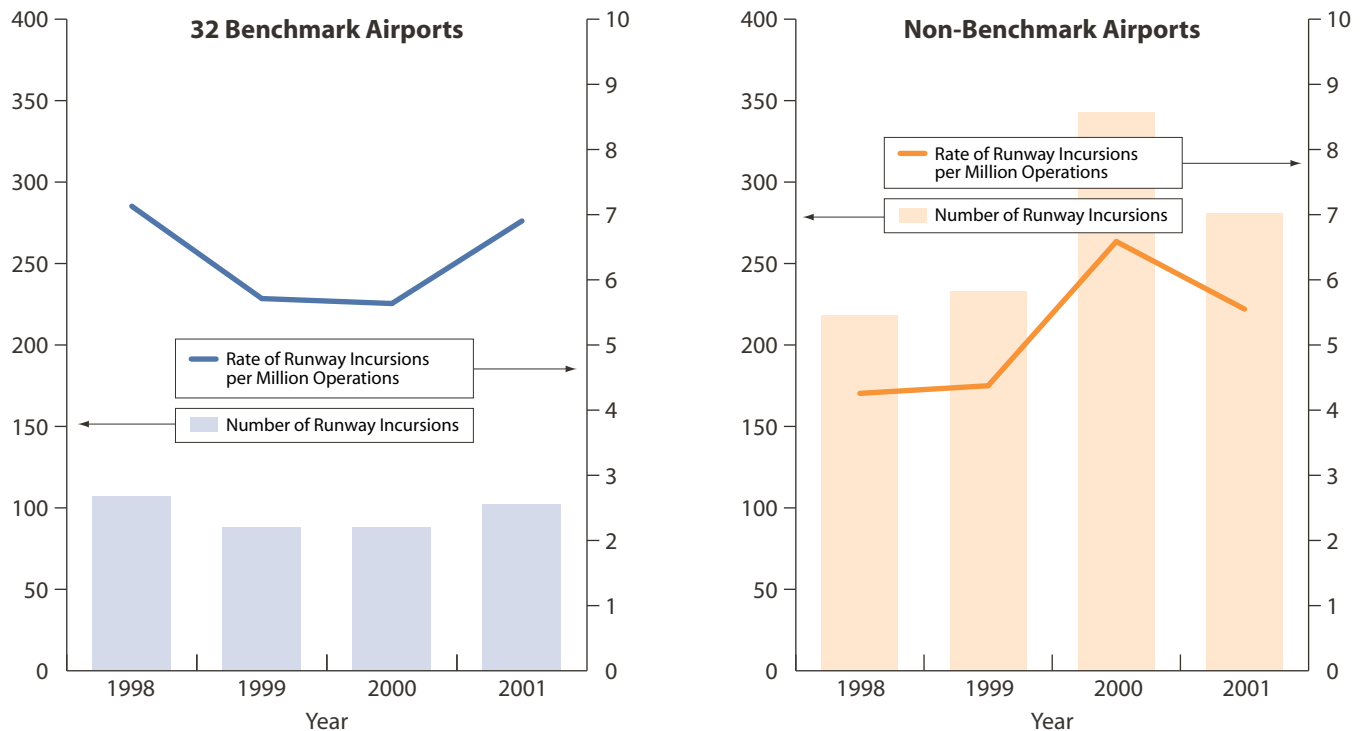
Figure 16:
*Runway Incursions at Civilian and Joint-Use Towered Airports
for CY 1998 through CY 2001*

Number of Runway Incursions	Number of FAA Towered Airports that had Runway Incursions	Percentage of Total Number of FAA Towered Airports
0	178	36%
1–5	226	46%
6–10	50	10%
11–20	23	5%
21–30	8	2%
31–45	3	1%
Total Number of FAA Towered Airports as of May 22, 2002 488		

Of the 488 towered airports in the United States, 84 airports reported six or more runway incursions whereas 178 airports had zero events for this four-year period.

Figure 17:

Runway Incursion Trends at the 32 Benchmark Airports Compared to Trends at the Remaining Airports



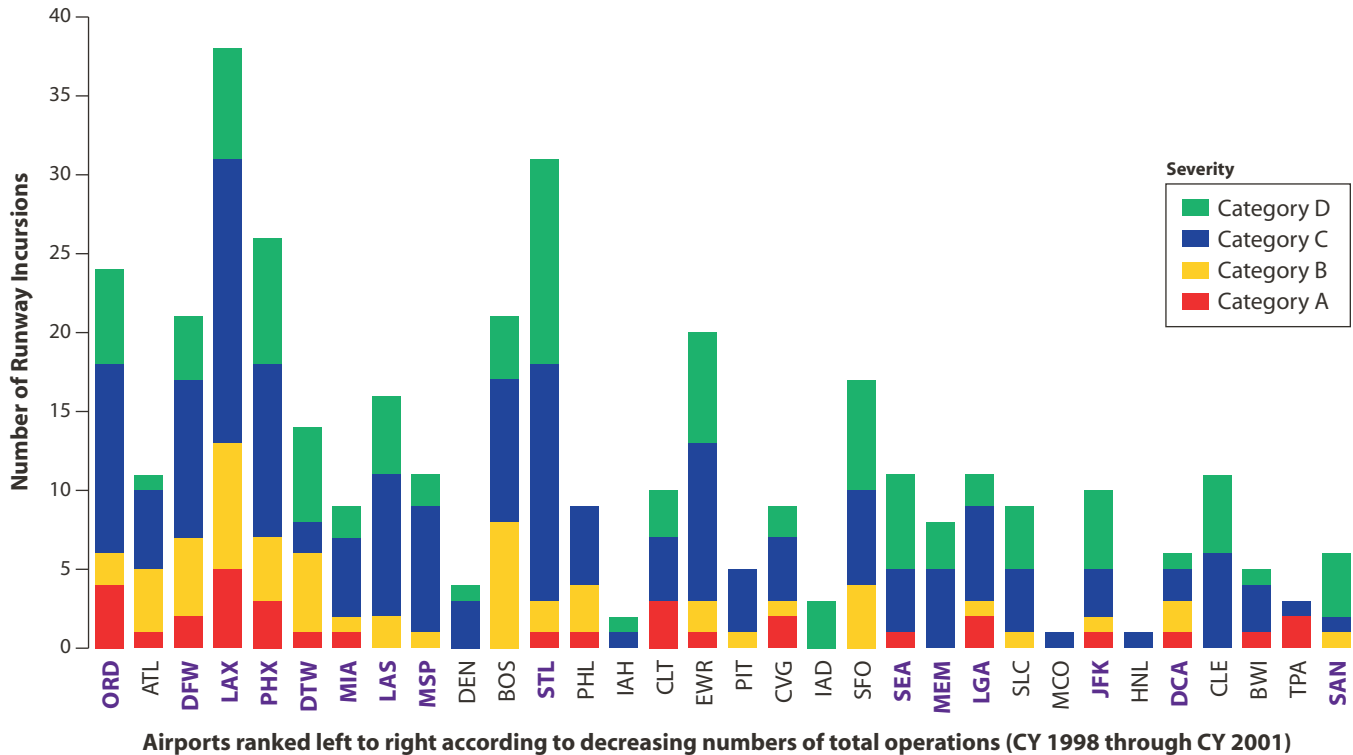
In CY 2001, the FAA's 32 benchmark airports accounted for nearly 27 percent (102 incursions) of the 383 runway incursions and 23 percent of the aircraft operations at civilian towered airports in the United States.

Figure 17 shows that the CY 2001 runway incursion rate for the 32 benchmark airports was 6.9 incursions per million operations whereas the rate for the remaining towered airports was 5.6 incursions per million operations. Nationwide, from CY 2000 through CY 2001, the overall runway incursion rate decreased 8 percent. However, the runway incursion rate for the benchmark airports increased 23 percent whereas the runway incursion rate for the non-benchmark airports decreased 15 percent over this same period.

The runway incursion data for the 32 benchmark airports and the non-benchmark airports were further examined to better understand this divergence. The 32 benchmark airports serve primarily commercial aircraft. The majority of general aviation aircraft are represented at the non-benchmark airports. A closer look at the types of runway incursions at the non-benchmark airports reveals that the primary change from CY 2000 to CY 2001 was a reduction in the number of pilot deviations. This is similar to the national trend, which showed a 17 percent decline in the number of pilot deviations, particularly those involving two general aviation aircraft.

Figure 18 lists the 32 benchmark airports in descending order of total operations from CY 1998 through CY 2001 and shows the number of incursions and severity distributions for this four-year period. The 32 benchmark airports accounted for 37

Figure 18:
Number and Severity of Runway Incursions at the 32 Benchmark Airports:
CY 1998 through CY 2001

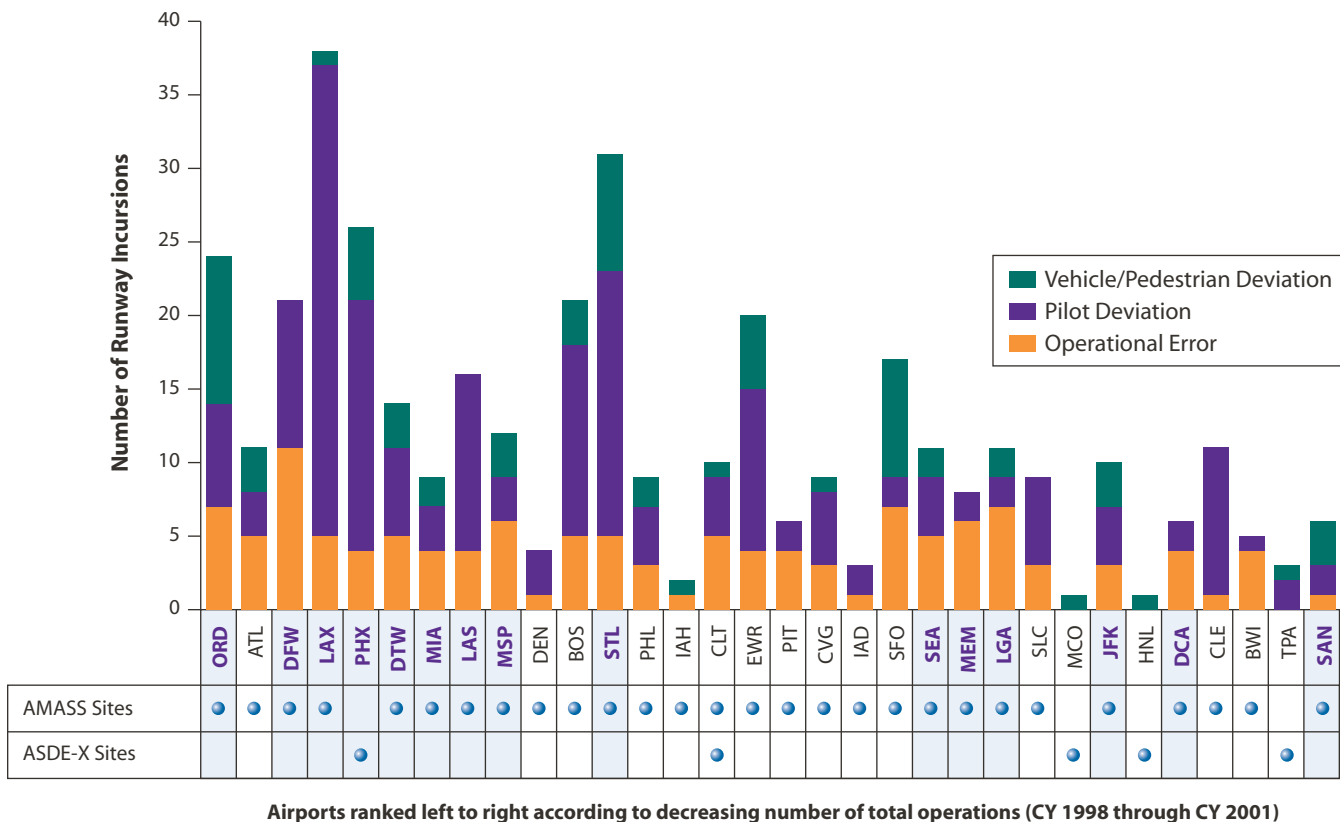


NOTE: Bold text indicates airports that had an increase in runway incursion rate in CY 2001 versus CY 2000

percent of all Category A and B incursions and 24 percent of all Category C and D incursions over the past four years. A closer inspection of specific airports revealed that the runway incursion rate increased at 15 of the 32 benchmark airports, or at 47 percent of these airports. **Figure 18** denotes benchmark airports that had an increase in the runway incursion rate from CY 2000 to CY 2001. The runway incursion types at these 32 benchmark airports were analyzed to further explore this finding.

Figure 19 presents the 32 benchmark airports and the distribution of runway incursion types for each airport. The 32 benchmark airports accounted for 26 percent (385 out of 1,460) of runway incursions in the four-year period. Of these 385 incursions, 50 percent (192) were reported as pilot deviations, 32 percent (124) were reported as operational errors, and 18 percent (69) were reported as vehicle/pedestrian deviations. This is representative of the national distribution of runway incursion types and implies that runway safety objectives must be aimed at all users of the airport surface to create a web of defenses to prevent human error and mitigate the consequences of errors when they do occur.

The 32 benchmark airports serve primarily commercial aircraft and account for 37 percent of all Category A and B incursions for the four-year period studied. The runway incursion rate increased at nearly half of these airports in CY 2001.

Figure 19:*Types of Runway Incursions at the 32 Benchmark Airports: CY 1998 through CY 2001*

NOTE: Bold text indicates airports that had an increase in runway incursion rate in CY 2001 versus CY 2000

All of the benchmark airports are slated to receive AMASS or ASDE-X systems—two decision-support tools aimed at improving airport surface safety.

The FAA is in the process of deploying several systems that are aimed at enhancing human performance and the ability of controllers to detect errors sooner and take action to mitigate consequences. An airport's tolerance of errors—that is, the ability of pilots, controllers, and vehicle operators to detect errors and mitigate consequences—is as important a safety measure as the number and rate of runway incursions. **Figure 19** shows the plan for deploying two safety-related technologies—Airport Movement Area Safety System (AMASS) and Airport Surface Detection Equipment-Model X (ASDE-X)—at the 32 benchmark airports. These systems will provide increased situational awareness to the air traffic controllers regarding the position of all aircraft on the airport surface and will increase the opportunity for controllers to recognize deviations and mitigate the potential consequences.

SUMMARY AND CONCLUSIONS

The FAA Office of Runway Safety has completed a trend analysis of the reported runway incursions from CY 1998 through CY 2001. The analyses of national trends included an investigation of the severity, frequency, and types of runway incursions that occurred during these four years. The types of aircraft operations involved in each of these types of incursions were also examined. Airport trends were presented with respect to the 32 benchmark airports and the non-benchmark airports as well as the types of aircraft operations that these airports serve.

National Trends

Nationally, the number of reported runway incursions decreased 11 percent to 383 incursions in CY 2001, and the rate of incursions decreased 8 percent to 5.9 incursions per million operations. Although the number of runway incursions declined for all severity categories, the majority of the national decrease in number was represented by the reduction in Category B and C events. A comparison of the respective months in CY 2000 and CY 2001 showed a decline in the number of runway incursions in nine of the months in CY 2001, with the largest decline occurring in August 2001. Furthermore, as this decline began in May and was sustained through the end of the year, other factors—in addition to the pronounced decrease in traffic volume in September 2001 and the overall 3 percent decline in CY 2001 traffic volume—likely contributed to the reduction in runway incursions for CY 2001.

Pilot deviations represented 58 percent of the runway incursions during the four-year period. The number of pilot deviations also showed a much larger variance during the four-year period as compared to the other types of runway incursions—operational errors and vehicle/pedestrian deviations. Although pilot deviations accounted for most of the increase in the number of runway incursions nationwide for CY 2000, pilot deviations decreased by 45 events in CY 2001. Pilot deviations were also the only runway incursion type that showed a reduction in both severity and frequency in CY 2001. The number of operational errors increased by one event whereas the number of vehicle/pedestrian deviations declined by four events in CY 2001.

The most frequent runway incursions during the four-year period involved two general aviation aircraft and two commercial aircraft, respectively. When compared to their representation in the NAS, these aircraft operations were involved in a proportionate amount of runway incursions. However, the rate of incursions involving two general aviation aircraft declined 12 percent whereas the rate of incursions involving two commercial aircraft increased 6 percent in CY 2001. This finding warrants attention to the human performance variables and airport-specific attributes that may have influenced this divergence.

The FAA Office of Runway Safety is making progress toward achieving DOT and FAA runway safety goals.

The number of reported runway incursions in CY 2001 decreased 11 percent, with a decline in nine months of the year.

Airport-specific attributes—such as airport configuration, local ATC procedures, and traffic mixture— influence runway incursion potential.

Airport Trends

Of the 488 airports studied, 404 airports either had no incursions or reported five or fewer runway incursions for the four-year period. The FAA's 32 benchmark airports accounted for nearly 27 percent of the 383 runway incursions reported in CY 2001. These same airports managed 23 percent of the aircraft operations in CY 2001. The runway incursion rate for these benchmark airports increased 23 percent whereas the runway incursion rate for the non-benchmark airports decreased by 15 percent. This trend is consistent with the increase in the rate of COMM/COMM runway incursions given that the 32 benchmark airports serve predominantly commercial operations. All of the 32 benchmark airports are slated to get AMASS or ASDE-X systems aimed at enhancing airport surface safety.

The rate of runway incursions involving two general aviation aircraft has declined along with the severity and frequency of pilot deviations involved in these incursions. However, continued runway safety efforts are needed to further promulgate this trend as general aviation operations represent the largest segment of NAS operations. General aviation runway incursions predominantly involved pilot deviations whereas commercial aircraft runway incursions were more evenly distributed between operational errors and pilot deviations. Therefore, the runway safety objectives needed at the airports that serve primarily general aviation operations will likely differ from the solutions for airports that serve primarily commercial operations.

Airport-level runway incursion trends—and the impact of airport-specific runway safety efforts—are more difficult to measure reliably, given the low frequency of occurrence of these events. To enhance airport runway safety management, the FAA is developing a prospective approach for analyzing airport-specific vulnerabilities—for example, infrastructure, procedures, and operational attributes. This approach will help identify latent risks, assess the potential effectiveness of alternative runway safety objectives, and implement solutions tailored to airport-specific needs.

Progress

The FAA has made progress on several fronts this past year toward achieving runway safety goals. In particular, the FAA has increased its collaboration with aviation constituents to promote a better understanding of runway incursion risks, implemented technologies, procedures, and training to enhance runway safety, as well as improved runway safety data collection, analysis, and dissemination.

Database Management Reporting System

Based on the FAA's in-depth analysis of runway incursion trends, the Office of Runway Safety identified opportunities for improving runway incursion data collection, analysis, and reporting. Although the FAA Office of Runway Safety has

The Office of Runway Safety is implementing a system to improve runway incursion data collection, analysis, and reporting.

access to runway incursion and surface incident data, these data reside in multiple and disparate databases, which makes information sharing, analysis, and reporting cumbersome and inefficient.

In December 2001, the FAA Office of Runway Safety began developing a runway incursion Data Management Reporting System (DMRS). The DMRS will serve as a centralized repository of aviation safety, aircraft, and airport-related information by providing seamless and easy access to several different databases containing relevant safety information:

- *Office of Runway Safety Surface Incident Database*: Contains information on surface incidents and runway incursions resulting from pilot deviations, operational errors, and vehicle/pedestrian deviations.
- *Runway Safety Action Team (RSAT) Database*: Tracks various runway incursion mitigation objectives and activities within headquarters and in the nine regions.
- *Aviation System Standards (AVN) Database*: Contains the results of AVN's surface inspections from airports identified by the nine regional runway safety program managers, and describes potential runway-related infrastructure issues from the pilot's perspective.
- *Airport Diagrams*: Official airport taxi diagrams for FAA towered airports.

As more data become available and additional source systems are identified, this information can readily be incorporated into the DMRS. Other data entry and manipulation capabilities may be identified as future DMRS enhancements. Some of these enhancements may include simplified data entry capabilities to expedite and automate the submission of facility inspection forms and wireless capabilities to facilitate information exchange among field inspectors and other FAA staff. The DMRS will be under development for the next several years.

Air Traffic Control Procedures Analysis

The FAA has received numerous comments and recommendations from the National Transportation Safety Board, Department of Transportation Office of the Inspector General, and other government/industry organizations, related to the safety and capacity implications of air traffic control procedures. The FAA Office of Runway Safety has reviewed these comments and has started to evaluate selected air traffic control procedures in depth. Three procedures were selected for analysis in FY 2002 through FY 2003: "Taxi-to" instructions that authorize aircraft to cross intermediate runways when taxiing to any destination on the airport surface, taxi into position and hold (TIPH), and multiple landing clearances issued to aircraft on approach to the same runway.

This effort uses information derived from the analysis of three years of runway incursion data and information voluntarily submitted through the FAA/NASA Aviation Safety Reporting System (ASRS). The analysis may employ air traffic

The Office of Runway Safety has started to evaluate selected air traffic control procedures in depth.

The FAA is developing a prospective approach for analyzing airport-specific vulnerabilities to anticipate and mitigate safety risks, in addition to responding to outcomes.

The FAA is analyzing surface incidents to supplement the runway incursion analyses and help pinpoint prevalent trends and potential vulnerabilities.

control modeling and human-in-the-loop simulation, as appropriate, to evaluate the impacts on controller workload, potential mechanisms for human error, and the built-in defenses to prevent and mitigate human errors. The Office of Runway Safety is supported in this effort by several independent aviation organizations and experts, representatives from the affected FAA offices, and the National Air Traffic Controllers Association.

Next Steps

The next steps for the FAA Office of Runway Safety include: developing prospective runway safety management approaches; analyzing surface incidents; and continuing to collaborate with the national and international aviation communities to increase awareness, improve operations, and further reduce the risk of runway incursions.

Airport Vulnerability and Risk Analyses

The FAA is developing an airport vulnerability and risk analysis process to investigate runway safety from a prospective viewpoint to complement the historical trend analysis contained in this report. Historical trend analysis is dependent on the availability and accuracy of the existing runway incursion data and focuses on outcomes. The vulnerability analysis is a complementary approach that concentrates on airport-specific attributes and operations that represent opportunities for, or defenses against, runway incursions. In other words, this approach defines airport-specific vulnerabilities that characterize an airport's runway incursion potential. The centerpiece of this prospective approach is the involvement of aviation constituents—including pilots, air traffic control specialists, airport managers, and operators—and observations at selected airports across the nation.

Analysis of Surface Incidents

During the past year, FAA Office of Runway Safety's efforts focused principally on runway incursions, but also recognized the importance of addressing surface incidents for a more comprehensive understanding of airport surface safety. Surface incidents include: a) events that occurred on the airport surface excluding the runway, such as incidents between aircraft on a taxiway or in the ramp area, and b) incidents where an aircraft, vehicle, or pedestrian entered a runway without a clearance but another aircraft was not present. The latter case represents an unrealized opportunity for a runway incursion. For example, an incident of a fuel truck driver mistakenly crossing a runway without permission with no aircraft present should be as much of a concern as an incident of a vehicle crossing with an aircraft present. Such occurrences provide additional information regarding runway safety vulnerabilities or runway incursion potential.

The FAA recognizes that if the vulnerabilities that contribute to runway or surface incidents are left uncorrected, the pilot, controller, and vehicle operator errors that lead to runway incursions will recur. Furthermore, the FAA realizes that a compre-

hensive safety management program must identify and mitigate recurring errors that, under different circumstances, may have resulted in a runway incursion. The analysis of surface incidents will be considered for inclusion in future reports and will provide additional data for the airport vulnerability and risk analysis previously described. Table 4 in the appendix of this report includes surface incident numbers for each towered airport to give the reader an idea of how often these events take place.

FAA Office of Runway Safety Compliance with the GPRA

Until 2001, the FAA Office of Runway Safety had been reporting runway incursion statistics by calendar year. However, the Government Performance and Results Act (GPRA) requires federal agencies to establish standards measuring their performance and effectiveness on a fiscal-year basis. To comply with GPRA requirements, the FAA will begin reporting runway incursions by fiscal year starting with FY 1999. Therefore, the next runway safety report will encompass FY 1999 through FY 2002.

International Outreach

Improving runway safety and reducing the risk of incidents and collisions on airport surfaces is a worldwide aviation priority. The Office of Runway Safety is in dialogue with colleagues in Canada, Eurocontrol, European Joint Airworthiness Authority, ICAO, IATA, IFALPA, and others. The FAA recognizes that safety is an international concern and that by sharing results of insightful studies and individual processes, discussing various approaches to solutions, reviewing each other's incident and accident reports, and establishing on-going dialogue with regard to common definitions and other similarities to the work, these agencies together can contribute to a safer worldwide runway safety environment. During this next year, the Office of Runway Safety will work in close concert with its international colleagues to further develop avenues for open communications and information exchange.

The FAA continues to promote collaboration with international aviation constituents to leverage the collective knowledge of aviation safety to address airport surface safety challenges.



Runway safety management is not a static victory but the dynamic management of both current and emerging risks. Armed with this improved understanding of historical runway incursion trends—and complemented by a proactive approach for anticipating emerging risks and an improved system for collecting, analyzing, and communicating runway safety information—the FAA Office of Runway Safety is making progress toward achieving DOT and FAA runway safety goals.

FAA Runway Safety Report

Runway Incursion Trends at Towered Airports in the United States
(CY 1998 – CY 2001)

Appendix

Table 1: Acronyms

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Have, AMASS or ASDE-X Systems Installed

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(CY 1998 – CY 2001)

Table 1:*Acronyms Used in this Publication*

AMASS	Airport Movement Area Safety System
ASDE-X	Airport Surface Detection Equipment – Model X
CY	Calendar Year
DMRS	Data Management Reporting System
DOT	Department of Transportation
FAA	Federal Aviation Administration
FY	Fiscal Year
IATA	International Air Transport Association
ICAO	International Civil Aviation Organization
IFALPA	International Federation of Air Line Pilots’ Associations
GPRA	Government Performance and Results Act
NAIMS	National Airspace Incidents Monitoring System
NAS	National Airspace System
NASA	National Aeronautics & Space Administration
RSAT	Runway Safety Action Team

Table 2:*Airports that Already Have or are Slated to Have, AMASS or ASDE-X Systems Installed*

Airport Code	Airport Name, City, (Airport Code)	AMASS	ASDE-X
ABQ	Albuquerque International Sunport, Albuquerque (ABQ)		X
ADW	Andrews Air Force Base, Clinton (ADW)	X	
ANC	Anchorage - Ted Stevens International, Anchorage (ANC)	X	
ATL	Atlanta - Hartsfield International, Atlanta (ATL)	X	
AUS	Austin - Bergstrom International, Austin (AUS)		X
BDL	Bradley International, Windsor Locks (BDL)		X
BOS	Boston - Logan International, Boston (BOS)	X	
BUR	Burbank - Glendale - Pasadena Airport, Burbank (BUR)		X
BWI	Baltimore - Washington International, Baltimore (BWI)	X	
CLE	Cleveland - Hopkins International, Cleveland (CLE)	X	
CLT	Charlotte - Douglas International, Charlotte (CLT)	X	
CMH	Port Columbus International, Columbus (CMH)		X
COS	City of Colorado Springs Municipal, Colorado Springs (COS)		X
CVG	Covington - Cincinnati - Northern Kentucky International, Covington (CVG)	X	
DCA	Ronald Reagan Washington National, Washington (DCA)	X	
DEN	Denver International, Denver (DEN)	X	
DFW	Dallas-Ft. Worth International, Dallas (DFW)	X	
DTW	Detroit Metropolitan Wayne County International, Detroit (DTW)	X	
EWB	Newark International, Newark (EWB)	X	
FLL	Fort Lauderdale - Hollywood International, Fort Lauderdale (FLL)		X
HNL	Honolulu International, Honolulu (HNL)		X
HOU	Houston - Hobby International, Houston (HOU)		X
IAD	Washington Dulles International, Dulles (IAD)	X	
IAH	George Bush Intercontinental, Houston (IAH)	X	
IND	Indianapolis International, Indianapolis (IND)		X
JFK	New York - John F. Kennedy International, New York (JFK)	X	
LAS	Las Vegas - McCarran International, Las Vegas (LAS)	X	

Table 2: (continued)

Airports that Already Have or are Slated to Have, AMASS or ASDE-X Systems Installed

Airport Code	Airport Name, City, (Airport Code)	AMASS	ASDE-X
LAX	Los Angeles International, Los Angeles (LAX)	X	
LGA	New York - La Guardia International, New York (LGA)	X	
MCI	Kansas City International, Kansas City (MCI)	X	
MCO	Orlando International, Orlando (MCO)		X
MDW	Chicago - Midway, Chicago (MDW)		X
MEM	Memphis International, Memphis (MEM)	X	
MIA	Miami International, Miami (MIA)	X	
MKE	Milwaukee - General Mitchell International, Milwaukee (MKE)		X
MSP	Minneapolis - St. Paul International, Minneapolis (MSP)	X	
MSY	New Orleans International - Moisant Field, New Orleans (MSY)	X	
OAK	Metropolitan Oakland International, Oakland (OAK)		X
ONT	Ontario International, Ontario (ONT)		X
ORD	Chicago - O'Hare International, Chicago (ORD)	X	
PDX	Portland International, Portland (PDX)	X	
PHL	Philadelphia International, Philadelphia (PHL)	X	
PHX	Phoenix - Sky Harbor International, Phoenix (PHX)		X
PIT	Pittsburgh International, Pittsburgh (PIT)	X	
PVD	Providence - Green State Airport, Providence (PVD)		X
RDU	Raleigh - Durham International, Raleigh (RDU)		X
RNO	Reno - Tahoe International, Reno (RNO)		X
SAN	San Diego International - Lindbergh Field, San Diego (SAN)	X	
SAT	San Antonio International, San Antonio (SAT)		X
SDF	Louisville International - Standiford Field, Louisville (SDF)	X	
SEA	Seattle-Tacoma International, Seattle (SEA)	X	
SFO	San Francisco International, San Francisco (SFO)	X	
SJC	San Jose International, San Jose (SJC)		X
SJU	San Juan - Luis Muñoz Marín International, San Juan (SJU)		X
SLC	Salt Lake City International, Salt Lake City (SLC)	X	
SMF	Sacramento International, Sacramento (SMF)		X
SNA	John Wayne-Orange County Airport, Santa Ana (SNA)		X
STL	St. Louis - Lambert International, St. Louis (STL)	X	
TPA	Tampa International, Tampa (TPA)		X

Table 3: Runway Incursion Data for the Seven Unclassified Events: (CY 1998 – CY 2001)

Airport	Airport ID	Year	Runway Incursion Type	Aircraft Operations Pair		
				GA/GA	JT/GA	GA/VP
Chicago - Midway Airport, Chicago, Illinois	MDW	1998	OE		1	
Monterey Peninsula Airport, Monterey, California	MRY	1998	OE		1	
Minneapolis-St. Paul International Airport, Minneapolis, Minnesota	MSP	1998	OE	1		
San Antonio International Airport, San Antonio, Texas	SAT	1998	PD		1	
Deer Valley Municipal Airport, Phoenix, Arizona	DVT	1998	PD	1		
Purdue University Airport, Lafayette, Indiana	LAF	1998	PD	1		
Pittsburgh International Airport, Pittsburgh, Pennsylvania	PIT	2000	OE		1	
Grand Total				3	4	0

Seven of the 1,460 runway incursions did not contain enough information to support a reliable categorization of severity. These events are identified in this table for completeness.

Table 4:**Runway Incursion Data by Airport (CY 1998 – CY 2001)**

Annual number, rate, and severity of runway incursions (RI) and the annual number of surface incidents (SI) for towered airports in the United States from 1998 through 2001 are presented in the following table (sorted alphabetically by state). Rates are given per 100,000 operations.

Definition of Table Headers:

Airport Name, City (Airport Code): Denotes the airport name, city, and airport code. Some of the airport identifiers were taken from www.ar-group.com/icaoiaata.htm or Air Routing International

Region: Denotes the FAA geographical region where the airport is located

Type: Denotes either RI or SI information

Data: Identifies the pertinent type of data for each airport

Totals: Shows the yearly sum of RI or SI data. For rate information, however, the average rate of runway incursions at the airport from 1998–2001 rather than the sum of yearly rates is shown. Note: "N/A" denotes that the rate is not available due to an unreported number of operations at the airport for a specific year or all years

ALABAMA

Airport Name, City (Airport Code)	Region	Type	Data	Year				Totals
				1998	1999	2000	2001	
Birmingham International, Birmingham (BHM)	ASO	RI	Number	1	3			4
			Rate	0.65	1.93			0.65
			Severity A		1			1
			Severity B	1				1
			Severity C		1			1
			Severity D		1			1
			Collision					
			Insufficient Data					
		SI	Number	2	5	3	3	13
			Rate					
Huntsville International Carl T Jones Field, Huntsville (HSV)	ASO	RI	Number					
			Rate					
			Severity A					
			Severity B					
			Severity C					
			Severity D					
			Collision					
			Insufficient Data					
		SI	Number	1	7	2	3	13
			Rate					
Mobile Downtown Airport, Mobile (BFM)	ASO	RI	Number	1				1
			Rate	1.15				0.29
			Severity A					
			Severity B	1				1
			Severity C					
			Severity D					
			Collision					
			Insufficient Data					
		SI	Number					
			Rate					
Mobile Regional, Mobile (MOB)	ASO	RI	Number					
			Rate					
			Severity A					
			Severity B					
			Severity C					
			Severity D					
			Collision					
			Insufficient Data					
		SI	Number		2			2
			Rate					
Montgomery Regional Airport, Montgomery (MGM)	ASO	RI	Number	1			1	2
			Rate	1.12			1.07	0.49
			Severity A					
			Severity B					
			Severity C					
			Severity D	1			1	2
			Collision					
			Insufficient Data					
		SI	Number		1	2		3
			Rate					
Tuscaloosa Municipal, Tuscaloosa (TCL)	ASO	RI	Number					
			Rate					
			Severity A					
			Severity B					
			Severity C					
			Severity D					
			Collision					
			Insufficient Data					
		SI	Number			1		1
			Rate					

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ALASKA

Airport Name, City (Airport Code)	Region	Type	Data	Year				Totals
				1998	1999	2000	2001	
Anchorage - Ted Stevens International, Anchorage (ANC)	AAL	RI	Number	5	1	1	3	10
			Rate	1.60	0.32	0.31	1.00	0.81
			Severity A					
			Severity B	1				1
			Severity C	1	1			2
			Severity D	3		1	3	8
			Collision					
			Insufficient Data					
Bethel Airport, Bethel (BET)	AAL	SI	Number	3	2	12	5	22
			Rate					
			Severity A					
			Severity B					
			Severity C					
			Severity D					
			Collision					
			Insufficient Data					
Fairbanks International, Fairbanks (FAI)	AAL	RI	Number		1	1	1	3
			Rate		0.76	0.72	0.75	0.55
			Severity A					
			Severity B					
			Severity C		1	1		2
			Severity D				1	1
			Collision					
			Insufficient Data					
Juneau International, Juneau (JNU)	AAL	SI	Number	1	3	7	5	16
			Rate			0.68		0.17
			Severity A					
			Severity B					
			Severity C					
			Severity D			1		1
			Collision					
			Insufficient Data					
Kenai Municipal, Kenai (ENA)	AAL	RI	Number			1	1	2
			Rate				1.82	0.37
			Severity A					
			Severity B					
			Severity C				1	1
			Severity D					
			Collision					
			Insufficient Data					
King Salmon Airport, King Salmon (AKN)	AAL	SI	Number		2	2		4
			Rate					
			Severity A					
			Severity B					
			Severity C					
			Severity D					
			Collision					
			Insufficient Data					
Kodiak Airport, Kodiak (ADQ)	AAL	RI	Number			1	2	3
			Rate					
			Severity A					
			Severity B					
			Severity C					
			Severity D					
			Collision					
			Insufficient Data					
Lake Hood Sea Plane Base, Anchorage (LHD)	AAL	SI	Number			2	4	6
			Rate					
			Severity A					
			Severity B					
			Severity C					
			Severity D			1		1
			Collision					
			Insufficient Data					
	AAL	SI	Number		5	3	6	14

ALASKA (continued)

Airport Name, City (Airport Code)	Region	Type	Data	Year				Totals
				1998	1999	2000	2001	
Merrill Field, Anchorage (MRI)	AAL	RI	Number	2		8	6	16
			Rate	0.97		4.20	3.35	2.06
			Severity A					
			Severity B				2	2
			Severity C	1		2	3	6
			Severity D	1		6	1	8
			Collision					
			Insufficient Data					
		SI	Number	7	27	18	13	65

AMERICAN SAMOA

Airport Name, City (Airport Code)	Region	Type	Data	Year				Totals
				1998	1999	2000	2001	
Pago Pago International, Pago Pago (PPG)	AWP	RI	Number			1		1
			Rate			6.35		1.64
			Severity A					
			Severity B					
			Severity C					
			Severity D			1		1
			Collision					
			Insufficient Data					
		SI	Number			2	4	6

ARIZONA

Airport Name, City (Airport Code)	Region	Type	Data	Year				Totals
				1998	1999	2000	2001	
Chandler Municipal, Chandler (CHD)	AWP	RI	Number			2	1	3
			Rate			0.80	0.43	0.33
			Severity A					
			Severity B					
			Severity C				1	1
			Severity D			2		2
			Collision					
			Insufficient Data					
		SI	Number			5	6	11
Deer Valley Municipal, Phoenix (DVT)	AWP	RI	Number	5	2	2	2	11
			Rate	1.78	0.70	0.54	0.59	0.86
			Severity A					
			Severity B		1			1
			Severity C	1		2		3
			Severity D	3	1		2	6
			Collision					
			Insufficient Data	1				1
		SI	Number	2	4	4	3	13
Flagstaff Pulliam, Flagstaff (FLG)	AWP	RI	Number					
			Rate					
			Severity A					
			Severity B					
			Severity C					
			Severity D					
			Collision					
			Insufficient Data					
		SI	Number	1			1	2
Glendale Municipal, Glendale (GEU)	AWP	RI	Number				1	1
			Rate				0.90	0.21
			Severity A					
			Severity B					
			Severity C				1	1
			Severity D					
			Collision					
			Insufficient Data					
		SI	Number			2	1	3

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ARIZONA (continued)

Airport Name, City (Airport Code)	Region	Type	Data	Year				Totals
				1998	1999	2000	2001	
Laughlin - Bullhead International, Bullhead City (IFP)	AWP	RI	Number	1		2	3	6
			Rate	N/A		3.87	5.96	N/A
			Severity A				1	1
			Severity B				1	1
			Severity C				1	1
			Severity D	1		2		3
			Collision					
			Insufficient Data					
		SI	Number				6	6
Love Airport, Prescott (PRC)	AWP	RI	Number	1		2	8	11
			Rate	0.29		0.62	2.46	0.83
			Severity A					
			Severity B			1	1	2
			Severity C	1			1	2
			Severity D			1	6	7
			Collision					
			Insufficient Data					
		SI	Number		1	5	3	9
Mesa - Falcon Field, Mesa (FFZ)	AWP	RI	Number	1	2	1	2	6
			Rate	0.45	0.76	0.36	0.79	0.59
			Severity A					
			Severity B				1	1
			Severity C		1	1		2
			Severity D	1	1		1	3
			Collision					
			Insufficient Data					
		SI	Number	2	3	4	3	12
Phoenix - Sky Harbor International, Phoenix (PHX)	AWP	RI	Number	7	3	6	10	26
			Rate	1.32	0.53	0.94	1.65	1.11
			Severity A	1	1	1		3
			Severity B	1		2	1	4
			Severity C	4	1	3	3	11
			Severity D	1	1		6	8
			Collision					
			Insufficient Data					
		SI	Number	13	6	12	3	34
Phoenix Goodyear Airport, Goodyear (GYR)	AWP	RI	Number			1	1	2
			Rate			0.70	0.74	0.39
			Severity A					
			Severity B					
			Severity C				1	1
			Severity D			1		1
			Collision					
			Insufficient Data					
		SI	Number				2	2
Scottsdale Airport, Scottsdale (SDL)	AWP	RI	Number				1	1
			Rate				0.54	0.12
			Severity A					
			Severity B					
			Severity C					
			Severity D				1	1
			Collision					
			Insufficient Data					
		SI	Number		1	1	1	3
Tucson International, Tucson (TUS)	AWP	RI	Number			2	4	6
			Rate			0.80	1.53	0.57
			Severity A					
			Severity B			1		1
			Severity C				3	3
			Severity D			1	1	2
			Collision					
			Insufficient Data					
		SI	Number	2		2	5	9
Williams Gateway Airport, Phoenix (IWA)	AWP	RI	Number			3	1	4
			Rate			1.89	0.62	0.53
			Severity A					
			Severity B					
			Severity C				1	1
			Severity D			3		3
			Collision					
			Insufficient Data					
		SI	Number				3	3

ARKANSAS

Airport Name, City (Airport Code)	Region	Type	Data	Year				Totals
				1998	1999	2000	2001	
Fort Smith Regional Airport, Fort Smith (FSM)	ASW	RI	Number					
			Rate					
			Severity A					
			Severity B					
			Severity C					
			Severity D					
			Collision					
			Insufficient Data					
Little Rock - Adams Field, Little Rock (LIT)	ASW	RI	Number				3	3
			Rate	2	1	2	1	6
			Severity A	1.17	0.55	1.14	0.57	0.85
			Severity B					
			Severity C			1		1
			Severity D	2	1	1	1	5
			Collision					
			Insufficient Data					
Northwest Arkansas Regional, Fayetteville (XNA)	ASW	RI	Number	4	1	2	2	9
			Rate					
			Severity A					
			Severity B					
			Severity C					
			Severity D					
			Collision					
			Insufficient Data					
		SI	Number			1		1
			Rate					
			Severity A					
			Severity B					
			Severity C					
			Severity D					
			Collision					
			Insufficient Data					

CALIFORNIA

Airport Name, City (Airport Code)	Region	Type	Data	Year				Totals
				1998	1999	2000	2001	
Brackett Field, La Verne (POC)	AWP	RI	Number	1	1	2		4
			Rate	0.47	0.40	0.79		0.42
			Severity A					
			Severity B			2		2
			Severity C	1	1			2
			Severity D					
			Collision					
			Insufficient Data					
Brown Field Municipal, San Diego (SDM)	AWP	SI	Number		2	7	7	16
			Rate		1			1
			Severity A		1.01			0.24
			Severity B					
			Severity C		1			1
			Severity D					
			Collision					
			Insufficient Data					
Burbank - Glendale - Pasadena Airport, Burbank (BUR)	AWP	RI	Number	3	1	2	1	7
			Rate	1.65	0.57	1.24	0.63	1.03
			Severity A					
			Severity B					
			Severity C	2	1	1	1	5
			Severity D	1		1		2
			Collision					
			Insufficient Data					
Camarillo Airport, Camarillo (CMA)	AWP	SI	Number		1		5	6
			Rate			3	1	4
			Severity A			1.61	0.56	0.55
			Severity B					
			Severity C			1	1	2
			Severity D			2		2
			Collision					
			Insufficient Data					
		SI	Number			17	8	25
			Rate					
			Severity A					
			Severity B					
			Severity C					
			Severity D					
			Collision					
			Insufficient Data					

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CALIFORNIA (continued)

Airport Name, City (Airport Code)	Region	Type	Data	Year				Totals
				1998	1999	2000	2001	
Chico Municipal, Chico (CIC)	AWP	RI	Number					
			Rate					
			Severity A					
			Severity B					
			Severity C					
			Severity D					
			Collision					
			Insufficient Data					
Chino Airport, Chino (CNO)	AWP	RI	Number	1	1		3	5
			Rate	0.53	0.56		2.06	0.74
			Severity A				1	1
			Severity B					
			Severity C				1	1
			Severity D	1	1		1	3
			Collision					
			Insufficient Data					
Concord - Buchanan Field, Concord (CCR)	AWP	RI	Number	1	3	7	7	18
			Rate	0.46	1.29	3.47	4.87	2.27
			Severity A					
			Severity B	1				1
			Severity C		3	1	2	6
			Severity D			6	5	11
			Collision					
			Insufficient Data					
El Monte Airport, El Monte (EMT)	AWP	RI	Number		3	5	6	14
			Rate			1.24	0.59	0.47
			Severity A					
			Severity B					
			Severity C					
			Severity D			2	1	3
			Collision					
			Insufficient Data					
Fresno - Yosemite International, Fresno (FAT)	AWP	RI	Number		2	5	1	8
			Rate	1		3	4	8
			Severity A	0.58		1.16	1.46	0.83
			Severity B			1		1
			Severity C				2	2
			Severity D	1		2	2	5
			Collision					
			Insufficient Data					
Fullerton Municipal Airport, Fullerton (FUL)	AWP	RI	Number	2	3	6	4	15
			Rate		2.14			0.54
			Severity A					
			Severity B					
			Severity C					
			Severity D		2			2
			Collision					
			Insufficient Data					
General Wm J Fox Air Field, Lancaster (WJF)	AWP	RI	Number	2	2	1		5
			Rate					
			Severity A					
			Severity B					
			Severity C					
			Severity D					
			Collision					
			Insufficient Data					
Hawthorne Municipal - Northrop Field, Hawthorne (HHR)	AWP	RI	Number				1	1
			Rate		3	2		5
			Severity A		3.52	2.55		1.55
			Severity B			1		1
			Severity C					
			Severity D		3	1		4
			Collision					
			Insufficient Data					
	SI		Number		2	3	2	7

CALIFORNIA (continued)

Airport Name, City (Airport Code)	Region	Type	Data	Year				Totals
				1998	1999	2000	2001	
Hayward Executive, Hayward (HWD)	AWP	RI	Number					
			Rate					
			Severity A					
			Severity B					
			Severity C					
			Severity D					
			Collision					
			Insufficient Data					
John Wayne - Orange County Airport, Santa Ana (SNA)	AWP	RI	Number			6	1	7
			Rate	3	9	7	11	30
			Severity A	0.72	1.91	1.80	2.86	1.81
			Severity B		1			1
			Severity C	1	4	3	3	11
			Severity D	2	4	4	8	18
			Collision					
			Insufficient Data					
Livermore Municipal, Livermore (LVK)	AWP	RI	Number	4	10	13	9	36
			Rate					
			Severity A					
			Severity B					
			Severity C					
			Severity D					
			Collision					
			Insufficient Data					
Long Beach - Daugherty Field, Long Beach (LGB)	AWP	RI	Number			1		1
			Rate					
			Severity A					
			Severity B					
			Severity C					
			Severity D					
			Collision					
			Insufficient Data					
Los Angeles - Whiteman Field, Los Angeles (WHP)	AWP	RI	Number	18	9	21	12	60
			Rate	2		3		5
			Severity A	1.68		2.20		0.98
			Severity B	1				1
			Severity C	1		2		3
			Severity D			1		1
			Collision					
			Insufficient Data					
Los Angeles International, Los Angeles (LAX)	AWP	RI	Number			2	3	5
			Rate	12	10	8	8	38
			Severity A	1.55	1.28	1.02	1.08	1.24
			Severity B	1	3	1		5
			Severity C	1	2	4	1	8
			Severity D	7	5	3	3	18
			Collision	3			4	7
			Insufficient Data					
Mc Clellan Palomar, Carlsbad (CRQ)	AWP	RI	Number	3	7	17	13	40
			Rate					
			Severity A					
			Severity B					
			Severity C					
			Severity D					
			Collision					
			Insufficient Data					
Meadows Field, Bakersfield (BFL)	AWP	RI	Number				2	2
			Rate					
			Severity A					
			Severity B				1	1
			Severity C				1	1
			Severity D					
			Collision					
			Insufficient Data					
Meadows Field, Bakersfield (BFL)	AWP	SI	Number	1				1
			Rate	0.63			1.10	0.42
			Severity A	1				1
			Severity B				1	1
			Severity C				1	1
			Severity D					
			Collision					
			Insufficient Data					
			Number	1				1
			Rate					

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CALIFORNIA (continued)

Airport Name, City (Airport Code)	Region	Type	Data	Year				Totals
				1998	1999	2000	2001	
Metropolitan Oakland International, Oakland (OAK)	AWP	RI	Number		2		3	5
			Rate		0.38		0.77	0.27
			Severity A					
			Severity B					
			Severity C		2		1	3
			Severity D				2	2
			Collision					
			Insufficient Data					
		SI	Number	1		7	12	20
Modesto City County Harry Sham, Modesto (MOD)	AWP	RI	Number					
			Rate					
			Severity A					
			Severity B					
			Severity C					
			Severity D					
			Collision					
			Insufficient Data					
		SI	Number				1	1
Monterey Peninsula Airport, Monterey (MRY)	AWP	RI	Number	1	1	1		3
			Rate	1.03	0.92	0.98		0.74
			Severity A					
			Severity B			1		1
			Severity C					
			Severity D		1			1
			Collision					
			Insufficient Data	1				1
		SI	Number			2	2	4
Napa County Airport, Napa (APC)	AWP	RI	Number			1		1
			Rate			0.69		0.17
			Severity A					
			Severity B					
			Severity C					
			Severity D			1		1
			Collision					
			Insufficient Data					
		SI	Number		2	7		9
Ontario International, Ontario (ONT)	AWP	RI	Number	4		1		5
			Rate	2.76		0.65		0.82
			Severity A	2				2
			Severity B					
			Severity C	1		1		2
			Severity D	1				1
			Collision					
			Insufficient Data					
		SI	Number	1	1	4	3	9
Palm Springs International, Palm Springs (PSP)	AWP	RI	Number		4		3	7
			Rate		3.85		3.04	1.79
			Severity A					
			Severity B		1			1
			Severity C		2		1	3
			Severity D		1		2	3
			Collision					
			Insufficient Data					
		SI	Number		4	7	6	17
Palmdale Prodn Flt/Test Instln AF Plant 42, Palmdale (PMD)	AWP	RI	Number				1	1
			Rate				2.50	0.50
			Severity A					
			Severity B					
			Severity C					
			Severity D				1	1
			Collision					
			Insufficient Data					
		SI	Number			1		1
Palo Alto of Santa Clara County, Palo Alto (PAO)	AWP	RI	Number		1	1		2
			Rate		0.49	0.50		0.25
			Severity A					
			Severity B					
			Severity C					
			Severity D		1	1		2
			Collision					
			Insufficient Data					
		SI	Number	1	1			2

CALIFORNIA (continued)

Airport Name, City (Airport Code)	Region	Type	Data	Year				Totals
				1998	1999	2000	2001	
Redding Municipal, Redding (RDD)	AWP	RI	Number					
			Rate					
			Severity A					
			Severity B					
			Severity C					
			Severity D					
			Collision					
			Insufficient Data					
Reid-Hillview of Santa Clara County Airport, San Jose (RHV)	AWP	RI	Number	3	1		1	5
			Rate		0.46		0.42	0.22
			Severity A					
			Severity B					
			Severity C		1			1
			Severity D				1	1
			Collision					
			Insufficient Data					
Riverside Municipal, Riverside (RAL)	AWP	RI	Number				3	3
			Rate					
			Severity A					
			Severity B					
			Severity C					
			Severity D					
			Collision					
			Insufficient Data					
Sacramento International, Sacramento (SMF)	AWP	RI	Number	2				2
			Rate					
			Severity A					
			Severity B					
			Severity C					
			Severity D					
			Collision					
			Insufficient Data					
Salinas Municipal Airport, Salinas (SNS)	AWP	RI	Number		1	1		2
			Rate		1.11	1.12		0.58
			Severity A		1			1
			Severity B					
			Severity C			1		1
			Severity D					
			Collision					
			Insufficient Data					
San Carlos Airport, San Carlos (SQL)	AWP	RI	Number			3	2	5
			Rate			0.62		0.15
			Severity A					
			Severity B					
			Severity C			1		1
			Severity D					
			Collision					
			Insufficient Data					
San Diego - Gillespie Field, San Diego (SEE)	AWP	RI	Number		1	2		3
			Rate		0.48	1.07		0.38
			Severity A					
			Severity B					
			Severity C		1	2		3
			Severity D					
			Collision					
			Insufficient Data					
San Diego - Montgomery Field, San Diego (MYF)	AWP	RI	Number	5	5	9	2	21
			Rate	1.88	1.82	3.58	0.93	2.08
			Severity A					
			Severity B			1		1
			Severity C	1	1	1		3
			Severity D	4	4	7	2	17
			Collision					
			Insufficient Data					
	AWP	SI	Number	1	18	15	4	38

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CALIFORNIA (continued)

Airport Name, City (Airport Code)	Region	Type	Data	Year				Totals
				1998	1999	2000	2001	
San Diego International - Lindbergh Field, San Diego (SAN)	AWP	RI	Number	1	1	2	2	6
			Rate	0.45	0.45	0.96	0.97	0.70
			Severity A					
			Severity B				1	1
			Severity C	1				1
			Severity D		1	2	1	4
			Collision					
			Insufficient Data					
San Francisco International, San Francisco (SFO)	AWP	SI	Number		3		3	6
			Rate	4	7	4	2	17
			Rate	0.93	1.59	0.93	0.52	1.01
			Severity A					
			Severity B	1	2	1		4
			Severity C	2	2	2		6
			Severity D	1	3	1	2	7
			Collision					
San Jose International, San Jose (SJC)	AWP	SI	Number	8	11	4	10	33
			Rate	5	2	5	2	14
			Rate	1.75	0.65	1.67	0.74	1.20
			Severity A				1	1
			Severity B	1		1		2
			Severity C	1	1	1	1	4
			Severity D	3	1	3		7
			Collision					
Santa Barbara Municipal, Santa Barbara (SBA)	AWP	SI	Number	6	9	10	14	39
			Rate	1	2	6	2	11
			Rate	0.62	1.19	3.58	1.25	1.67
			Severity A	1				1
			Severity B					
			Severity C		1	2	2	5
			Severity D		1	4		5
			Collision					
Santa Maria Public - Hancock Field, Santa Maria (SMX)	AWP	SI	Number	3	4	12	4	23
			Rate	1	2	6	2	11
			Rate	0.62	1.19	3.58	1.25	1.67
			Severity A	1				1
			Severity B					
			Severity C		1	2	2	5
			Severity D		1	4		5
			Collision					
Santa Monica Municipal, Santa Monica (SMO)	AWP	SI	Number	3	4	12	4	23
			Rate	1	2	6	2	11
			Rate	0.62	1.19	3.58	1.25	1.67
			Severity A	1				1
			Severity B					
			Severity C		1	2	2	5
			Severity D		1	4		5
			Collision					
Sonoma County Airport, Santa Rosa (STS)	AWP	SI	Number	3	4	12	4	23
			Rate	1	2	6	2	11
			Rate	0.62	1.19	3.58	1.25	1.67
			Severity A	1				1
			Severity B					
			Severity C		1	2	2	5
			Severity D		1	4		5
			Collision					
Stockton Metropolitan, Stockton (SCK)	AWP	SI	Number	3	4	12	4	23
			Rate	1	2	6	2	11
			Rate	0.62	1.19	3.58	1.25	1.67
			Severity A	1				1
			Severity B					
			Severity C		1	2	2	5
			Severity D		1	4		5
			Collision					

CALIFORNIA (continued)

Airport Name, City (Airport Code)	Region	Type	Data	Year				Totals
				1998	1999	2000	2001	
Van Nuys Airport, Van Nuys (VNY)	AWP	RI	Number	1		2	3	6
			Rate	0.18		0.41	0.66	0.29
			Severity A					
			Severity B					
			Severity C	1		1		2
			Severity D			1	2	3
			Collision				1	1
			Insufficient Data					
Zamperini Field, Torrance (TOA)	AWP	RI	Number	1		2	2	5
			Rate			0.56		0.13
			Severity A					
			Severity B					
			Severity C			1		1
			Severity D					
			Collision					
			Insufficient Data					
	SI		Number	1		1	1	3

COLORADO

Airport Name, City (Airport Code)	Region	Type	Data	Year				Totals
				1998	1999	2000	2001	
Aspen-Pitkin Co/Sardy Field, Aspen (ASE)	ANM	RI	Number				1	1
			Rate				2.17	0.53
			Severity A					
			Severity B				1	1
			Severity C					
			Severity D					
			Collision					
			Insufficient Data					
City of Colorado Springs Municipal, Colorado Springs (COS)	ANM	SI	Number		1		3	4
			Rate	1	1			2
			Severity A	0.55	0.42			0.24
			Severity B					
			Severity C	1				1
			Severity D		1			1
			Collision					
			Insufficient Data					
Denver - Centennial Airport, Denver (APA)	ANM	SI	Number		2	2	1	5
			Rate	3	4	2	1	10
			Severity A	0.64	0.92	0.50	0.26	0.59
			Severity B	1	1			2
			Severity C		1	1		2
			Severity D	2	2	1	1	6
			Collision					
			Insufficient Data					
Denver - Jeffco Airport, Denver (BJC)	ANM	SI	Number	1	5	12	4	22
			Rate		1	7	3	11
			Severity A		0.59	4.06	1.76	1.63
			Severity B			1		1
			Severity C		1		1	2
			Severity D			6	2	8
			Collision					
			Insufficient Data					
Denver International, Denver (DEN)	ANM	SI	Number	1	22	24	13	60
			Rate		1	7	3	11
			Severity A		0.59	4.06	1.76	1.63
			Severity B			1		1
			Severity C		1		1	2
			Severity D			6	2	8
			Collision					
			Insufficient Data					
		SI	Number	1	4	1	1	7
			Rate		1	7	3	11
			Severity A		0.59	4.06	1.76	1.63
			Severity B			1		1
			Severity C		1		1	2
			Severity D			6	2	8
			Collision					
			Insufficient Data					

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COLORADO (continued)

Airport Name, City (Airport Code)	Region	Type	Data	Year				Totals
				1998	1999	2000	2001	
Eagle County Regional Airport, Eagle (EGE)	ANM	RI	Number	2		1		3
			Rate	6.80		2.52		2.10
			Severity A					
			Severity B					
			Severity C			1		1
			Severity D	2				2
			Collision					
			Insufficient Data					
Pueblo Memorial, Pueblo (PUB)	ANM	RI	Number	5				5
			Rate					
			Severity A					
			Severity B					
			Severity C					
			Severity D					
			Collision					
			Insufficient Data					
Walker Field, Grand Junction (GJT)	ANM	RI	Number			1		1
			Rate					
			Severity A					
			Severity B					
			Severity C					
			Severity D					
			Collision					
			Insufficient Data					
		SI	Number				1	1
			Rate					
			Severity A					
			Severity B					
			Severity C					
			Severity D					
			Collision					
			Insufficient Data					

CONNECTICUT

Airport Name, City (Airport Code)	Region	Type	Data	Year				Totals
				1998	1999	2000	2001	
Bradley International, Windsor Locks (BDL)	ANE	RI	Number	1		3		4
			Rate	0.56		1.77		0.57
			Severity A					
			Severity B			1		1
			Severity C	1		1		2
			Severity D			1		1
			Collision					
			Insufficient Data					
Bridgeport - Sikorsky Memorial, Bridgeport (BDR)	ANE	RI	Number	1		3	5	9
			Rate		1.07	4.43	2.18	1.85
			Severity A					
			Severity B					
			Severity C			2	1	3
			Severity D		1	2	1	4
			Collision					
			Insufficient Data					
Danbury Municipal, Danbury (DXR)	ANE	RI	Number		2		2	4
			Rate		1.67		1.73	0.86
			Severity A					
			Severity B		1			1
			Severity C					
			Severity D		1		2	3
			Collision					
			Insufficient Data					
Groton - New London Airport, Groton (GON)	ANE	RI	Number			3	4	7
			Rate			2.69		0.67
			Severity A					
			Severity B					
			Severity C			1		1
			Severity D			1		1
			Collision					
			Insufficient Data					
		SI	Number		1	2	3	6
			Rate					
			Severity A					
			Severity B					
			Severity C					
			Severity D					
			Collision					
			Insufficient Data					

CONNECTICUT *(continued)*

Airport Name, City (Airport Code)	Region	Type	Data	Year				Totals
				1998	1999	2000	2001	
Hartford Brainard, Hartford (HFD)	ANE	RI	Number					
			Rate					
			Severity A					
			Severity B					
			Severity C					
			Severity D					
			Collision					
			Insufficient Data					
Tweed-New Haven Airport, New Haven (HVN)	ANE	RI	Number		1			1
			Rate			1.63		0.41
			Severity A					
			Severity B					
			Severity C			1		1
			Severity D					
			Collision					
			Insufficient Data					
	SI		Number					

DELAWARE

Airport Name, City (Airport Code)	Region	Type	Data	Year				Totals
				1998	1999	2000	2001	
New Castle County Airport, Wilmington (ILG)	AEA	RI	Number					
			Rate					
			Severity A					
			Severity B					
			Severity C					
			Severity D					
			Collision					
			Insufficient Data					
	SI		Number		1			1

DISTRICT OF COLUMBIA

Airport Name, City (Airport Code)	Region	Type	Data	Year				Totals
				1998	1999	2000	2001	
Ronald Reagan Washington National, Washington (DCA)	AEA	RI	Number	1	1	1	3	6
			Rate	0.32	0.30	0.29	1.11	0.48
			Severity A				1	1
			Severity B		1		1	2
			Severity C	1			1	2
			Severity D			1		1
			Collision					
			Insufficient Data					
	SI		Number	2	2	1		5

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FLORIDA

Airport Name, City (Airport Code)	Region	Type	Data	Year				Totals
				1998	1999	2000	2001	
Albert Whitted Airport, St. Petersburg (SPG)	ASO	RI	Number					
			Rate					
			Severity A					
			Severity B					
			Severity C					
			Severity D					
			Collision					
			Insufficient Data					
Craig Municipal, Jacksonville (CRG)	ASO	SI	Number		4	5	1	10
			Rate	1	1		1	3
			Severity A	0.74	0.70		0.63	0.53
			Severity B					
			Severity C	1				1
			Severity D		1		1	2
			Collision					
			Insufficient Data					
Daytona Beach International, Daytona Beach (DAB)	ASO	SI	Number		1	1	1	3
			Rate	3	6	3	2	14
			Severity A	0.98	1.65	0.81	0.54	0.99
			Severity B		3		1	4
			Severity C		1			1
			Severity D	1	1	1	1	4
			Collision	2	1	2		5
			Insufficient Data					
Fort Lauderdale - Executive, Fort Lauderdale (FXE)	ASO	SI	Number	1	1	3	1	6
			Rate	3	5	9	12	29
			Severity A	1.24	2.04	3.46	4.87	2.92
			Severity B				1	1
			Severity C	1	1	4	2	8
			Severity D	2	4	5	9	20
			Collision					
			Insufficient Data					
Fort Lauderdale - Hollywood International, Fort Lauderdale (FLL)	ASO	SI	Number	5	17	15	26	63
			Rate		2	4	1	7
			Severity A		0.71	1.37	0.34	0.63
			Severity B				1	1
			Severity C		1	1		1
			Severity D		1	2		3
			Collision			1		1
			Insufficient Data					
Gainesville Regional, Gainesville (GNV)	ASO	SI	Number	1	2	1	3	7
			Rate					
			Severity A					
			Severity B					
			Severity C					
			Severity D					
			Collision					
			Insufficient Data					
Jacksonville International, Jacksonville (JAX)	ASO	SI	Number	1		1		1
			Rate					
			Severity A	0.64		0.67		0.33
			Severity B			1		1
			Severity C					
			Severity D	1				1
			Collision					
			Insufficient Data					
Kendall-Tamiami - Executive Airport, Miami (TMB)	ASO	SI	Number	2		2		4
			Rate			1		1
			Severity A			0.52		0.13
			Severity B					
			Severity C					
			Severity D			1		1
			Collision					
			Insufficient Data					
	ASO	SI	Number				1	1

FLORIDA (continued)

Airport Name, City (Airport Code)	Region	Type	Data	Year				Totals
				1998	1999	2000	2001	
Key West International, Key West (EYW)	ASO	RI	Number	1				1
			Rate	0.84				0.23
			Severity A					
			Severity B					
			Severity C					
			Severity D	1				1
			Collision					
			Insufficient Data					
Kissimmee Municipal Airport, Orlando (ISM)	ASO	SI	Number	5			1	6
			Rate		1	1	1	3
			Severity A		0.70	0.68	0.59	0.52
			Severity B				1	1
			Severity C					
			Severity D		1	1		2
			Collision					
			Insufficient Data					
Lakeland - Linder Regional Airport, Lakeland (LAL)	ASO	RI	Number	1	2	2		5
			Rate	0.50	0.91	1.03		0.61
			Severity A					
			Severity B	1	1			2
			Severity C			1		1
			Severity D		1	1		2
			Collision					
			Insufficient Data					
Melbourne International, Melbourne (MLB)	ASO	SI	Number	1	2	4	7	14
			Rate		1	1		2
			Severity A		0.64	0.52		0.30
			Severity B			1		1
			Severity C		1			1
			Severity D					
			Collision					
			Insufficient Data					
Miami International, Miami (MIA)	ASO	RI	Number	1	2	3	3	9
			Rate	0.19	0.39	0.58	0.64	0.44
			Severity A				1	1
			Severity B			1		1
			Severity C		2	2	1	5
			Severity D	1			1	2
			Collision					
			Insufficient Data					
Naples Municipal, Naples (APF)	ASO	SI	Number		2	1		3
			Rate		1	1	1	3
			Severity A		0.81	0.84	0.71	0.60
			Severity B					
			Severity C		1		1	2
			Severity D			1		1
			Collision					
			Insufficient Data					
North Perry Airport, Hollywood (HWO)	ASO	SI	Number	1	3	2	4	10
			Rate	1				1
			Severity A	0.63				0.14
			Severity B	1				1
			Severity C					
			Severity D					
			Collision					
			Insufficient Data					
Opa Locka Airport, Miami (OPF)	ASO	RI	Number	1				1
			Rate	0.97				0.20
			Severity A					
			Severity B	1				1
			Severity C					
			Severity D					
			Collision					
			Insufficient Data					
	ASO	SI	Number	1	3		1	3

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FLORIDA (continued)

Airport Name, City (Airport Code)	Region	Type	Data	Year				Totals
				1998	1999	2000	2001	
Orlando - Executive Airport, Orlando (ORL)	ASO	RI	Number	1	1	1	1	4
			Rate	0.50	0.44	0.44	0.46	0.46
			Severity A			1		1
			Severity B					
			Severity C	1	1		1	3
			Severity D					
			Collision					
			Insufficient Data					
Orlando - Sanford International, Orlando (SFB)	ASO	RI	Number	1	2	3	1	7
			Rate	3	1	2		6
			Severity A	0.79	0.28	0.54		0.40
			Severity B					
			Severity C					
			Severity D	3	1	2		6
			Collision					
			Insufficient Data					
Orlando International, Orlando (MCO)	ASO	RI	Number	6	3	2	2	13
			Rate		1			1
			Severity A		0.27			0.07
			Severity B					
			Severity C		1			1
			Severity D					
			Collision					
			Insufficient Data					
Page Field, Ft. Myers (FMY)	ASO	RI	Number	1	2		2	5
			Rate					
			Severity A					
			Severity B					
			Severity C					
			Severity D					
			Collision					
			Insufficient Data					
Palm Beach International, West Palm Beach (PBI)	ASO	RI	Number	1	4	2		7
			Rate	5	2	2	2	11
			Severity A	2.58	1.01	0.93	0.94	1.34
			Severity B			1	1	2
			Severity C	2	2			4
			Severity D	3		1	1	5
			Collision					
			Insufficient Data					
Panama City - Bay County International, Panama City (PFN)	ASO	RI	Number	3	5	2	1	11
			Rate	1				1
			Severity A	0.95				0.27
			Severity B					
			Severity C	1				1
			Severity D					
			Collision					
			Insufficient Data					
Pensacola Regional, Pensacola (PNS)	ASO	RI	Number	2	1	1		4
			Rate				1	1
			Severity A				0.86	0.21
			Severity B					
			Severity C				1	1
			Severity D					
			Collision					
			Insufficient Data					
Sarasota - Bradenton International, Sarasota (SRQ)	ASO	RI	Number		1	2	3	6
			Rate			4	4	8
			Severity A			2.36	2.43	1.12
			Severity B				1	1
			Severity C			1	1	2
			Severity D			2	1	3
			Collision			1		1
			Insufficient Data					
	ASO	SI	Number			3	2	5

FLORIDA (continued)

Airport Name, City (Airport Code)	Region	Type	Data	Year				Totals
				1998	1999	2000	2001	
Southwest Florida International, Fort Myers (RSW)	ASO	RI	Number					
			Rate					
			Severity A					
			Severity B					
			Severity C					
			Severity D					
			Collision					
			Insufficient Data					
St. Lucie County International, Ft. Pierce (FPR)	ASO	RI	Number	1		3		4
			Rate			0.57		0.15
			Severity A					
			Severity B					
			Severity C			1		1
			Severity D					
			Collision					
			Insufficient Data					
St. Petersburg - Clearwater International, St. Petersburg (PIE)	ASO	RI	Number		1			1
			Rate		0.44			0.11
			Severity A					
			Severity B					
			Severity C		1			1
			Severity D					
			Collision					
			Insufficient Data					
Tallahassee Regional, Tallahassee (TLH)	ASO	RI	Number					
			Rate					
			Severity A					
			Severity B					
			Severity C					
			Severity D					
			Collision					
			Insufficient Data					
Tampa International, Tampa (TPA)	ASO	RI	Number	1	2	1		4
			Rate	0.78		0.36		0.28
			Severity A	2				2
			Severity B					
			Severity C			1		1
			Severity D					
			Collision					
			Insufficient Data					
Vero Beach Municipal, Vero Beach (VRB)	ASO	RI	Number		4	1		5
			Rate				3	0.35
			Severity A					
			Severity B				1	1
			Severity C					
			Severity D				2	2
			Collision					
			Insufficient Data					
Witham Field, Stuart (SUA)	ASO	RI	Number	2	2			4
			Rate				1	0.22
			Severity A					
			Severity B					
			Severity C					
			Severity D				1	1
			Collision					
			Insufficient Data					
	ASO	SI	Number				1	1
			Rate					

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GEORGIA

Airport Name, City (Airport Code)	Region	Type	Data	Year				Totals
				1998	1999	2000	2001	
Athens/Ben Epps, Athens (AHN)	ASO	RI	Number				1	1
			Rate				1.35	0.37
			Severity A					
			Severity B					
			Severity C					
			Severity D				1	1
			Collision					
			Insufficient Data					
Atlanta - Dekalb - Peachtree Airport, Atlanta (PDK)	ASO	RI	Number	1	2	1	5	9
			Rate	0.44	0.86	0.42	2.36	0.98
			Severity A					
			Severity B		2		1	3
			Severity C				2	2
			Severity D	1		1	2	4
			Collision					
			Insufficient Data					
Atlanta - Hartsfield International, Atlanta (ATL)	ASO	RI	Number	3	2	4	15	24
			Rate	0.24	0.66	0.33		0.31
			Severity A			1		1
			Severity B	1	2	1		4
			Severity C		4	1		5
			Severity D	1				1
			Collision					
			Insufficient Data					
Augusta Regional at Bush Field, Augusta (AGS)	ASO	RI	Number		2	1	1	4
			Rate					
			Severity A					
			Severity B					
			Severity C					
			Severity D					
			Collision					
			Insufficient Data					
Cobb County Mc Collum Field, Marietta (RYY)	ASO	RI	Number		2		1	3
			Rate					
			Severity A					
			Severity B					
			Severity C					
			Severity D					
			Collision					
			Insufficient Data					
Columbus Metropolitan, Columbus (CSG)	ASO	RI	Number	1	1			2
			Rate			1		0.42
			Severity A					
			Severity B					
			Severity C			1		1
			Severity D					
			Collision					
			Insufficient Data					
Fulton County Airport - Brown Field, Atlanta (FTY)	ASO	RI	Number		1	1		2
			Rate		0.87	0.85		0.43
			Severity A					
			Severity B					
			Severity C		1			1
			Severity D			1		1
			Collision					
			Insufficient Data					
Gwinnett County Airport, Lawrenceville (LZU)	ASO	RI	Number	1	2	2		5
			Rate	0.93				0.23
			Severity A					
			Severity B					
			Severity C					
			Severity D	1				1
			Collision					
			Insufficient Data					
	ASO	SI	Number	1	1			2

GEORGIA (continued)

Airport Name, City (Airport Code)	Region	Type	Data	Year				Totals
				1998	1999	2000	2001	
Middle Georgia Regional, Macon (MCN)	ASO	RI	Number					
			Rate					
			Severity A					
			Severity B					
			Severity C					
			Severity D					
			Collision					
			Insufficient Data					
Savannah International, Savannah (SAV)	ASO	SI	Number	2	1	2		5
			Rate	1.87		0.89	1.83	1.14
			Severity A					
			Severity B			1	1	2
			Severity C	1			1	2
			Severity D	1				1
			Collision					
			Insufficient Data					
Valdosta Regional, Valdosta (VLD)	ASO	SI	Number	4		1	2	7
			Rate			1.74	3.41	1.34
			Severity A					
			Severity B					
			Severity C			1	1	2
			Severity D				1	1
			Collision					
			Insufficient Data					
		SI	Number		1			1

HAWAII

Airport Name, City (Airport Code)	Region	Type	Data	Year				Totals
				1998	1999	2000	2001	
Honolulu International, Honolulu (HNL)	AWP	RI	Number	1				1
			Rate	0.30				0.07
			Severity A					
			Severity B					
			Severity C	1				1
			Severity D					
			Collision					
			Insufficient Data					
Kahului International, Kahului (OGG)	AWP	SI	Number	5	4		2	11
			Rate			1		1
			Severity A			0.57		0.14
			Severity B					
			Severity C					
			Severity D			1		1
			Collision					
			Insufficient Data					
Kona International at Keahole, Keahole (KOA)	AWP	SI	Number	3		11	1	15
			Rate					
			Severity A					
			Severity B					
			Severity C					
			Severity D					
			Collision					
			Insufficient Data					
Lihue, Lihue (LIH)	AWP	SI	Number				1	1
			Rate				0.96	0.23
			Severity A					
			Severity B					
			Severity C					
			Severity D				1	1
			Collision					
			Insufficient Data					
		SI	Number					

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IDAHO

Airport Name, City (Airport Code)	Region	Type	Data	Year				Totals
				1998	1999	2000	2001	
Boise Air Terminal - Gowen Field, Boise (BOI)	ANM	RI	Number		3	2	2	7
			Rate		1.67	1.17	1.21	1.01
			Severity A					
			Severity B					
			Severity C		2			2
			Severity D		1	2	2	5
			Collision					
			Insufficient Data					
Fanning Field, Idaho Falls (IDA)	ANM	SI	Number	3	3	3	10	19
			Rate			1		1
			Severity A			2.37		0.53
			Severity B					
			Severity C					
			Severity D			1		1
			Collision					
			Insufficient Data					
Joslin Field Magic Valley Regional, Twin Falls (TWF)	ANM	SI	Number		1	1		2
			Rate					
			Severity A					
			Severity B					
			Severity C					
			Severity D					
			Collision					
			Insufficient Data					
		SI	Number			1	1	2
			Rate					
			Severity A					
			Severity B					
			Severity C					
			Severity D					
			Collision					
			Insufficient Data					

ILLINOIS

Airport Name, City (Airport Code)	Region	Type	Data	Year				Totals
				1998	1999	2000	2001	
Alton - St. Louis Regional Airport, Alton/St. Louis (ALN)	AGL	RI	Number					1
			Rate				1.21	0.32
			Severity A					
			Severity B					
			Severity C					
			Severity D				1	1
			Collision					
			Insufficient Data					
Bloomington - Central Illinois Regional Airport, Bloomington (BMI)	AGL	SI	Number		2			2
			Rate		3.07			0.82
			Severity A					
			Severity B					
			Severity C					
			Severity D		2			2
			Collision					
			Insufficient Data					
Chicago - Aurora Municipal, Chicago/Aurora (ARR)	AGL	SI	Number	2	2			4
			Rate	1	1	1		3
			Severity A	0.77	0.85	0.79		0.61
			Severity B			1		1
			Severity C		1			1
			Severity D	1				1
			Collision					
			Insufficient Data					
Chicago - Du Page Airport, Chicago (DPA)	AGL	SI	Number	1	2			3
			Rate	1	1	1		2
			Severity A	0.46		0.50		0.25
			Severity B			1		1
			Severity C					
			Severity D	1				1
			Collision					
			Insufficient Data					
		SI	Number	9	4	1	3	17
			Rate					
			Severity A					
			Severity B					
			Severity C					
			Severity D					
			Collision					
			Insufficient Data					

ILLINOIS (continued)

Airport Name, City (Airport Code)	Region	Type	Data	Year				Totals
				1998	1999	2000	2001	
Chicago - Midway, Chicago (MDW)	AGL	RI	Number	5	5	4	2	16
			Rate	1.80	1.68	1.34	0.72	1.39
			Severity A			1		1
			Severity B	3	2	1		6
			Severity C	1	3			4
			Severity D			2	2	4
			Collision					
			Insufficient Data	1				1
		SI	Number		2	5	1	8
Chicago - O'Hare International, Chicago (ORD)	AGL	RI	Number	4	6	4	10	24
			Rate	0.45	0.67	0.44	1.10	0.66
			Severity A		3	1		4
			Severity B		1		1	2
			Severity C	4		2	6	12
			Severity D		2	1	3	6
			Collision					
			Insufficient Data					
		SI	Number	2	2	8	3	15
Chicago - Palwaukee Municipal, Chicago (PWK)	AGL	RI	Number	4		4	2	10
			Rate	2.10		2.22	1.16	1.40
			Severity A				1	1
			Severity B	2				2
			Severity C	1		1		2
			Severity D	1		3	1	5
			Collision					
			Insufficient Data					
		SI	Number	2	1		2	5
Decatur Airport, Decatur (DEC)	AGL	RI	Number		1			1
			Rate		1.84			0.47
			Severity A		1			1
			Severity B					
			Severity C					
			Severity D					
			Collision					
			Insufficient Data					
		SI	Number					
Greater Peoria Regional Airport, Peoria (PIA)	AGL	RI	Number			1		1
			Rate			1.18		0.29
			Severity A					
			Severity B					
			Severity C					
			Severity D			1		1
			Collision					
			Insufficient Data					
		SI	Number	1				1
Merrill C Meigs, Chicago (CGX)	AGL	RI	Number					
			Rate					
			Severity A					
			Severity B					
			Severity C					
			Severity D					
			Collision					
			Insufficient Data					
		SI	Number		1			1
Quad City International, Moline (MLI)	AGL	RI	Number			1		1
			Rate			1.51		0.36
			Severity A					
			Severity B					
			Severity C					
			Severity D			1		1
			Collision					
			Insufficient Data					
		SI	Number			1		1
Rockford - Greater Rockford, Rockford (RFD)	AGL	RI	Number		1	4		5
			Rate		0.99	4.45		1.32
			Severity A					
			Severity B					
			Severity C			1		1
			Severity D		1	3		4
			Collision					
			Insufficient Data					
		SI	Number	4	4	5		13

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ILLINOIS (continued)

Airport Name, City (Airport Code)	Region	Type	Data	Year				Totals
				1998	1999	2000	2001	
Springfield - Capital Airport, Springfield (SPI)	AGL	RI	Number		4			4
			Rate		4.50			1.21
			Severity A					
			Severity B					
			Severity C		2			2
			Severity D		2			2
			Collision					
			Insufficient Data					
St. Louis Downtown - Parks Airport, Cahokia/St. Louis (CPS)	AGL	RI	Number	1				1
			Rate	0.62				0.15
			Severity A					
			Severity B					
			Severity C					
			Severity D	1				1
			Collision					
			Insufficient Data					
University of Illinois Willard, Champaign/Urbana (CMI)	AGL	RI	Number					
			Rate					
			Severity A					
			Severity B					
			Severity C					
			Severity D					
			Collision					
			Insufficient Data					
Waukegan Regional Airport, Waukegan (UGN)	AGL	RI	Number	1				1
			Rate			2	2	4
			Severity A			2.18	2.08	1.06
			Severity B					
			Severity C			1	2	3
			Severity D			1		1
			Collision					
			Insufficient Data					
	AGL	SI	Number			1	4	5

INDIANA

Airport Name, City (Airport Code)	Region	Type	Data	Year				Totals
				1998	1999	2000	2001	
Evansville Regional, Evansville (EVV)	AGL	RI	Number				1	1
			Rate				1.20	0.28
			Severity A					
			Severity B				1	1
			Severity C					
			Severity D					
			Collision					
			Insufficient Data					
Ft. Wayne International, Ft. Wayne (FWA)	AGL	RI	Number		1	1		2
			Rate		0.83	0.81		0.44
			Severity A					
			Severity B		1			1
			Severity C					
			Severity D			1		1
			Collision					
			Insufficient Data					
Indianapolis International, Indianapolis (IND)	AGL	RI	Number	5	1		1	7
			Rate	2.06	0.40		0.41	0.70
			Severity A					
			Severity B					
			Severity C	2	1			3
			Severity D	3			1	4
			Collision					
			Insufficient Data					
	AGL	SI	Number	3	3	1	4	11

INDIANA (continued)

Airport Name, City (Airport Code)	Region	Type	Data	Year				Totals
				1998	1999	2000	2001	
Monroe County Airport, Bloomington (BMG)	AGL	RI	Number					
			Rate					
			Severity A					
			Severity B					
			Severity C					
			Severity D					
			Collision					
			Insufficient Data					
Purdue University Airport, Lafayette (LAF)	AGL	RI	Number		1			1
			Rate	0.59				0.17
			Severity A					
			Severity B					
			Severity C					
			Severity D					
			Collision					
			Insufficient Data	1				1
South Bend Regional Airport, South Bend (SBN)	AGL	RI	Number		1	1		2
			Rate	1.19	2.36	1.29	1.32	1.55
			Severity A					
			Severity B					
			Severity C		1			1
			Severity D	1	1	1	1	4
			Collision					
			Insufficient Data					
Terre Haute International - Hulman Field, Terre Haute (HUF)	AGL	RI	Number		1	2	2	5
			Rate		3.61			0.80
			Severity A					
			Severity B					
			Severity C					
			Severity D		2			2
			Collision					
			Insufficient Data					
	AGL	SI	Number		1	2		3

IOWA

Airport Name, City (Airport Code)	Region	Type	Data	Year				Totals
				1998	1999	2000	2001	
Cedar Rapids - The Eastern Iowa Airport, Cedar Rapids (CID)	ACE	RI	Number		1	1		2
			Rate		1.19	1.22		0.62
			Severity A					
			Severity B					
			Severity C					
			Severity D		1	1		2
			Collision					
			Insufficient Data					
Des Moines International, Des Moines (DSM)	ACE	RI	Number	2	2			4
			Rate		0.74		1.69	0.58
			Severity A					
			Severity B					
			Severity C				1	1
			Severity D		1		1	2
			Collision					
			Insufficient Data					
Dubuque Regional, Dubuque (DBQ)	ACE	RI	Number	1	3	4	2	10
			Rate				2.09	0.54
			Severity A					
			Severity B					
			Severity C					
			Severity D				1	1
			Collision					
			Insufficient Data					
	ACE	SI	Number				1	1

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IOWA (continued)

Airport Name, City (Airport Code)	Region	Type	Data	Year				Totals
				1998	1999	2000	2001	
Sioux Gateway Airport, Sioux City (SUX)	ACE	RI	Number			1		1
			Rate			2.43		0.60
			Severity A					
			Severity B					
			Severity C					
			Severity D			1		1
			Collision					
			Insufficient Data					
Waterloo Municipal, Waterloo (ALO)	ACE	SI	Number		2		3	5
			Rate				1	1
			Severity A				2.22	0.51
			Severity B					
			Severity C					
			Severity D				1	1
			Collision					
			Insufficient Data					
	ACE	SI	Number		1		1	2

KANSAS

Airport Name, City (Airport Code)	Region	Type	Data	Year				Totals
				1998	1999	2000	2001	
Garden City Regional, Garden City (GCK)	ACE	RI	Number					
			Rate					
			Severity A					
			Severity B					
			Severity C					
			Severity D					
			Collision					
			Insufficient Data					
Hutchinson Municipal, Hutchinson (HUT)	ACE	SI	Number				3	3
			Rate					
			Severity A					
			Severity B					
			Severity C					
			Severity D					
			Collision					
			Insufficient Data					
New Century Aircenter, Olathe (IXD)	ACE	SI	Number			2	2	4
			Rate					
			Severity A					
			Severity B					
			Severity C					
			Severity D					
			Collision					
			Insufficient Data					
Philip Billard Municipal, Topeka (TOP)	ACE	SI	Number			1	1	2
			Rate					
			Severity A					
			Severity B					
			Severity C					
			Severity D					
			Collision					
			Insufficient Data					
Salina Municipal, Salina (SLN)	ACE	SI	Number			1	2	3
			Rate					
			Severity A					
			Severity B					
			Severity C					
			Severity D					
			Collision					
			Insufficient Data					
	ACE	SI	Number			1		1

KANSAS (continued)

Airport Name, City (Airport Code)	Region	Type	Data	Year				Totals
				1998	1999	2000	2001	
Wichita Mid-Continent Airport, Wichita (ICT)	ACE	RI	Number	2		2		4
			Rate	0.97		0.92		0.47
			Severity A					
			Severity B			1		1
			Severity C	1				1
			Severity D	1		1		2
			Collision					
			Insufficient Data					
		SI	Number		2	1	2	5

KENTUCKY

Airport Name, City (Airport Code)	Region	Type	Data	Year				Totals
				1998	1999	2000	2001	
Barkley Regional, Paducah (PAH)	ASO	RI	Number					
			Rate					
			Severity A					
			Severity B					
			Severity C					
			Severity D					
			Collision					
			Insufficient Data					
		SI	Number		2	1		3
Blue Grass Airport, Lexington (LEX)	ASO	RI	Number		1			1
			Rate		0.98			0.26
			Severity A					
			Severity B					
			Severity C					
			Severity D		1			1
			Collision					
			Insufficient Data					
		SI	Number					
Bowman Field, Louisville (LOU)	ASO	RI	Number			2	2	4
			Rate			1.43	1.77	0.71
			Severity A					
			Severity B					
			Severity C			1	1	2
			Severity D			1	1	2
			Collision					
			Insufficient Data					
		SI	Number		3	1		4
Covington - Cincinnati-Northern Kentucky Intl, Covington (CVG)	ASO	RI	Number	2	1	4	2	9
			Rate	0.45	0.21	0.84	0.52	0.50
			Severity A	2				2
			Severity B			1		1
			Severity C		1	3		4
			Severity D				2	2
			Collision					
			Insufficient Data					
		SI	Number	1		2		3
Daviess County Airport, Owensboro (OWB)	ASO	RI	Number					
			Rate					
			Severity A					
			Severity B					
			Severity C					
			Severity D					
			Collision					
			Insufficient Data					
		SI	Number				4	4
Louisville International - Standiford Field, Louisville (SDF)	ASO	RI	Number			2	1	3
			Rate			1.10	0.57	0.43
			Severity A					
			Severity B			1		1
			Severity C			1	1	2
			Severity D					
			Collision					
			Insufficient Data					
		SI	Number	2		2	5	9

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LOUISIANA

Airport Name, City (Airport Code)	Region	Type	Data	Year				Totals
				1998	1999	2000	2001	
Alexandria International, Alexandria (AEX)	ASW	RI	Number					
			Rate					
			Severity A					
			Severity B					
			Severity C					
			Severity D					
			Collision					
			Insufficient Data					
Baton Rouge Metropolitan Airport, Baton Rouge (BTR)	ASW	RI	Number			1		1
			Rate	1			1	2
			Severity A	0.71			0.89	0.38
			Severity B					
			Severity C					
			Severity D	1			1	2
			Collision					
			Insufficient Data					
Lafayette Regional, Lafayette (LFT)	ASW	RI	Number		1	1	3	5
			Rate					
			Severity A					
			Severity B					
			Severity C					
			Severity D					
			Collision					
			Insufficient Data					
Lakefront Airport, New Orleans (NEW)	ASW	RI	Number			1	1	2
			Rate	1			1	2
			Severity A	0.57			0.81	0.32
			Severity B	1				1
			Severity C				1	1
			Severity D					
			Collision					
			Insufficient Data					
Monroe Regional Airport, Monroe (MLU)	ASW	RI	Number	2	3	4	2	11
			Rate		1	2		3
			Severity A		1.61	3.22		1.20
			Severity B					
			Severity C			1		1
			Severity D		1	1		2
			Collision					
			Insufficient Data					
New Orleans International - Moisant Field, New Orleans (MSY)	ASW	RI	Number	6		4	6	16
			Rate			2	1	3
			Severity A			1.19	0.64	0.45
			Severity B					
			Severity C			1		1
			Severity D			1	1	2
			Collision					
			Insufficient Data					
Shreveport Downtown, Shreveport (DTN)	ASW	RI	Number				1	1
			Rate				1.92	1.92
			Severity A					
			Severity B					
			Severity C					
			Severity D				1	1
			Collision					
			Insufficient Data					
Shreveport Regional, Shreveport (SHV)	ASW	RI	Number				5	5
			Rate				1	1
			Severity A				1.34	0.30
			Severity B					
			Severity C					
			Severity D				1	1
			Collision					
			Insufficient Data					
	ASW	SI	Number				1	1
			Rate					

MAINE

Airport Name, City (Airport Code)	Region	Type	Data	Year				Totals
				1998	1999	2000	2001	
Bangor International, Bangor (BGR)	ANE	RI	Number	2		1		3
			Rate	2.03		1.12		0.80
			Severity A					
			Severity B	1				1
			Severity C	1				1
			Severity D			1		1
			Collision					
			Insufficient Data					
Portland International Jetport, Portland (PWM)	ANE	RI	Number	1	1			2
			Rate	0.78	1.60			0.64
			Severity A					
			Severity B					
			Severity C					
			Severity D	1	2			3
			Collision					
			Insufficient Data					
		SI	Number		2	1		3

MARYLAND

Airport Name, City (Airport Code)	Region	Type	Data	Year				Totals
				1998	1999	2000	2001	
Andrews Air Force Base, Clinton (ADW)	AEA	RI	Number	3	2	1		6
			Rate	2.42	1.99	0.96		1.38
			Severity A					
			Severity B					
			Severity C			1		1
			Severity D	3	2			5
			Collision					
			Insufficient Data					
Baltimore - Washington International, Baltimore (BWI)	AEA	RI	Number	1	11	9	2	23
			Rate	0.34	0.33	0.63	0.31	0.41
			Severity A		1			1
			Severity B					
			Severity C	1		2		3
			Severity D				1	1
			Collision					
			Insufficient Data					
Hagerstown Regional - Henson Field, Hagerstown (HGR)	AEA	RI	Number	1	2	3		5
			Rate	5.05		1.90	1.92	2.25
			Severity A					
			Severity B					
			Severity C	1		1	1	3
			Severity D	2				2
			Collision					
			Insufficient Data					
Martin State, Baltimore (MTN)	AEA	RI	Number	1		2		3
			Rate					
			Severity A					
			Severity B					
			Severity C					
			Severity D					
			Collision					
			Insufficient Data					
Salisbury Ocean City Wicomico Regional, Salisbury (SBY)	AEA	RI	Number	1				1
			Rate					
			Severity A					
			Severity B					
			Severity C					
			Severity D					
			Collision					
			Insufficient Data					
		SI	Number			1		1

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MASSACHUSETTS

Airport Name, City (Airport Code)	Region	Type	Data	Year				Totals
				1998	1999	2000	2001	
Barnes Municipal, Westfield (BAF)	ANE	RI	Number				1	1
			Rate				1.56	0.37
			Severity A					
			Severity B					
			Severity C					
			Severity D				1	1
			Collision					
			Insufficient Data					
Barnstable Municipal, Hyannis (HYA)	ANE	RI	Number	1				1
			Rate	0.74				0.18
			Severity A					
			Severity B	1				1
			Severity C					
			Severity D					
			Collision					
			Insufficient Data					
Bedford - Laurence G. Hanscom Field, Bedford (BED)	ANE	RI	Number			1	1	2
			Rate					
			Severity A					
			Severity B		1		1	2
			Severity C			2		2
			Severity D	1	1			2
			Collision					
			Insufficient Data					
Beverly Municipal, Beverly (BVY)	ANE	RI	Number	1	2	2	3	8
			Rate				1.08	0.27
			Severity A					
			Severity B					
			Severity C					
			Severity D				1	1
			Collision					
			Insufficient Data					
Boston - Logan International, Boston (BOS)	ANE	RI	Number	4	3	8	6	21
			Rate	0.78	0.60	1.57	1.27	1.05
			Severity A					
			Severity B	2	2	3	1	8
			Severity C	1		5	3	9
			Severity D	1	1		2	4
			Collision					
			Insufficient Data					
Lawrence Municipal, Lawrence (LWM)	ANE	RI	Number			2	4	6
			Rate			3.28		0.81
			Severity A					
			Severity B					
			Severity C			2		2
			Severity D			1		1
			Collision					
			Insufficient Data					
Marthas Vineyard Airport, Marthas Vineyard (MVY)	ANE	RI	Number					
			Rate					
			Severity A					
			Severity B					
			Severity C					
			Severity D					
			Collision					
			Insufficient Data					
Nantucket Memorial, Nantucket (ACK)	ANE	RI	Number					
			Rate					
			Severity A					
			Severity B					
			Severity C					
			Severity D					
			Collision					
			Insufficient Data					
Nantucket Memorial, Nantucket (ACK)	ANE	SI	Number		1	4		5
			Rate					
		RI	Number					
			Rate					
			Severity A					
			Severity B					
			Severity C					
			Severity D					
			Collision					
			Insufficient Data					
		SI	Number				1	1
			Rate					

MASSACHUSETTS (continued)

Airport Name, City (Airport Code)	Region	Type	Data	Year				Totals
				1998	1999	2000	2001	
New Bedford Regional, New Bedford (EWB)	ANE	RI	Number					
			Rate					
			Severity A					
			Severity B					
			Severity C					
			Severity D					
			Collision					
			Insufficient Data					
Norwood Memorial Airport, Norwood (OWD)	ANE	RI	Number				1	1
			Rate	1				1
			Severity A	0.92				0.26
			Severity B					
			Severity C					
			Severity D	1				1
			Collision					
			Insufficient Data					
Worcester Regional, Worcester (ORH)	ANE	RI	Number		1		3	4
			Rate					
			Severity A					
			Severity B					
			Severity C					
			Severity D					
			Collision					
			Insufficient Data					
		SI	Number			1		1
			Rate					
			Severity A					
			Severity B					
			Severity C					
			Severity D					
			Collision					
			Insufficient Data					

MICHIGAN

Airport Name, City (Airport Code)	Region	Type	Data	Year				Totals
				1998	1999	2000	2001	
Ann Arbor Municipal Airport, Ann Arbor (ARB)	AGL	RI	Number			1		1
			Rate			0.96		0.21
			Severity A					
			Severity B					
			Severity C			1		1
			Severity D					
			Collision					
			Insufficient Data					
Bishop International, Flint (FNT)	AGL	RI	Number		9	8	2	19
			Rate				1	1
			Severity A				0.74	0.18
			Severity B					
			Severity C					
			Severity D				1	1
			Collision					
			Insufficient Data					
Capital City Airport, Lansing (LAN)	AGL	RI	Number		1	1		2
			Rate					
			Severity A					
			Severity B					
			Severity C					
			Severity D					
			Collision					
			Insufficient Data					
Cherry Capital Airport, Traverse City (TVC)	AGL	RI	Number	1				1
			Rate	0.77				0.21
			Severity A					
			Severity B					
			Severity C	1				1
			Severity D					
			Collision					
			Insufficient Data					
		SI	Number		1			1
			Rate					
			Severity A					
			Severity B					
			Severity C					
			Severity D					
			Collision					
			Insufficient Data					

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MICHIGAN (continued)

Airport Name, City (Airport Code)	Region	Type	Data	Year				Totals
				1998	1999	2000	2001	
Detroit - Willow Run Airport, Detroit (YIP)	AGL	RI	Number	2	2	2		6
			Rate	1.08	1.25	1.46		1.02
			Severity A			1		1
			Severity B					
			Severity C	1				1
			Severity D	1	2	1		4
			Collision					
			Insufficient Data					
Detroit City Airport, Detroit (DET)	AGL	RI	Number	7	7	1	6	21
			Rate					
			Severity A					
			Severity B					
			Severity C					
			Severity D					
			Collision					
			Insufficient Data					
Detroit Metropolitan Wayne County International, Detroit (DTW)	AGL	RI	Number	6	1	2	5	14
			Rate	1.11	0.18	0.36	0.96	0.64
			Severity A			1		1
			Severity B	1	1	1	2	5
			Severity C	1			1	2
			Severity D	4			2	6
			Collision					
			Insufficient Data					
Gerald R. Ford International, Grand Rapids (GRR)	AGL	RI	Number	2	1	1	9	13
			Rate			0.73		0.19
			Severity A					
			Severity B					
			Severity C			1		1
			Severity D					
			Collision					
			Insufficient Data					
Jackson County - Reynolds Field, Jackson (JXN)	AGL	RI	Number		1	2	1	4
			Rate		1.42	3.22	1.56	1.52
			Severity A					
			Severity B					
			Severity C			1		1
			Severity D		1	1	1	3
			Collision					
			Insufficient Data					
Kalamazoo - Battle Creek International, Kalamazoo (AZO)	AGL	RI	Number		1		2	3
			Rate			1.00	2.08	0.74
			Severity A					
			Severity B					
			Severity C				2	2
			Severity D			1		1
			Collision					
			Insufficient Data					
Kellogg Airport, Battle Creek (BTL)	AGL	RI	Number	1	1		4	6
			Rate			1.01		0.25
			Severity A					
			Severity B					
			Severity C			1		1
			Severity D					
			Collision					
			Insufficient Data					
MBS International, Saginaw (MBS)	AGL	RI	Number			1		1
			Rate					
			Severity A					
			Severity B					
			Severity C					
			Severity D					
			Collision					
			Insufficient Data					
	AGL	SI	Number			1	1	2

MICHIGAN (continued)

Airport Name, City (Airport Code)	Region	Type	Data	Year				Totals
				1998	1999	2000	2001	
Muskegon County, Muskegon (MKG)	AGL	RI	Number				1	1
			Rate				1.17	0.30
			Severity A					
			Severity B					
			Severity C					
			Severity D				1	1
			Collision					
			Insufficient Data					
Oakland County International, Pontiac (PTK)	AGL	RI	Number	1		2	3	6
			Rate					
			Severity A					
			Severity B					
			Severity C					
			Severity D					
			Collision					
			Insufficient Data					
		SI	Number	2		2	2	6

MINNESOTA

Airport Name, City (Airport Code)	Region	Type	Data	Year				Totals
				1998	1999	2000	2001	
Anoka County - Blaine Airport, Minneapolis (ANE)	AGL	RI	Number		1		1	2
			Rate		0.67		0.73	0.34
			Severity A					
			Severity B					
			Severity C					
			Severity D		1		1	2
			Collision					
			Insufficient Data					
Downtown Holman Field, St. Paul (STP)	AGL	RI	Number	1	6	1	3	11
			Rate					
			Severity A					
			Severity B					
			Severity C					
			Severity D					
			Collision					
			Insufficient Data					
Duluth International, Duluth (DLH)	AGL	RI	Number	2	1	3	2	8
			Rate			3.25		0.78
			Severity A					
			Severity B			1		1
			Severity C			1		1
			Severity D					
			Collision					
			Insufficient Data					
Minneapolis - Crystal Airport, Minneapolis (MIC)	AGL	RI	Number	2	3	6	3	14
			Rate	3	4	2	1	10
			Severity A	1.67	2.14	1.13	0.64	1.43
			Severity B		1	1		2
			Severity C	1	1			2
			Severity D	2	2	1	1	6
			Collision					
			Insufficient Data					
Minneapolis - Flying Cloud Airport, Minneapolis (FCM)	AGL	RI	Number	8	4	5	4	21
			Rate	2	4	2	1	9
			Severity A	0.95	2.08	1.07	0.54	1.16
			Severity B					
			Severity C		2	1	1	4
			Severity D	2	2	1		5
			Collision					
			Insufficient Data					
		SI	Number	5	7	1	8	21

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MINNESOTA (continued)

Airport Name, City (Airport Code)	Region	Type	Data	Year				Totals
				1998	1999	2000	2001	
Minneapolis - St. Paul International, Minneapolis (MSP)	AGL	RI	Number	2	3	3	4	12
			Rate	0.41	0.59	0.57	0.80	0.60
			Severity A					
			Severity B			1		1
			Severity C		3	2	3	8
			Severity D	1			1	2
			Collision					
			Insufficient Data	1				1
		SI	Number	1	8	5	4	18
Rochester International, Rochester (RST)	AGL	RI	Number	2		2	1	5
			Rate	2.95		2.69	1.29	1.68
			Severity A	1				1
			Severity B					
			Severity C			1		1
			Severity D	1		1	1	3
			Collision					
			Insufficient Data					
		SI	Number	1		2	3	6

MISSISSIPPI

Airport Name, City (Airport Code)	Region	Type	Data	Year				Totals
				1998	1999	2000	2001	
Gulfport - Biloxi Regional Airport, Gulfport (GPT)	ASO	RI	Number	2	1	1	1	5
			Rate	2.05	0.84	0.81	1.04	1.15
			Severity A					
			Severity B					
			Severity C					
			Severity D	2	1	1	1	5
			Collision					
			Insufficient Data					
		SI	Number	4		1		5
Hawkins Field, Jackson (HKS)	ASO	RI	Number					
			Rate					
			Severity A					
			Severity B					
			Severity C					
			Severity D					
			Collision					
			Insufficient Data					
		SI	Number		1			1
Jackson International, Jackson (JAN)	ASO	RI	Number					
			Rate					
			Severity A					
			Severity B					
			Severity C					
			Severity D					
			Collision					
			Insufficient Data					
		SI	Number	1	1	3	2	7
Mid Delta Regional, Greenville (GLH)	ASO	RI	Number				1	1
			Rate				2.79	0.67
			Severity A					
			Severity B					
			Severity C				1	1
			Severity D					
			Collision					
			Insufficient Data					
		SI	Number	1		1		2
Tupelo Regional Airport, Tupelo (TUP)	ASO	RI	Number			1		1
			Rate			2.11		0.81
			Severity A			1		1
			Severity B					
			Severity C					
			Severity D					
			Collision					
			Insufficient Data					
		SI	Number			2	1	3

MISSOURI

Airport Name, City (Airport Code)	Region	Type	Data	Year				Totals
				1998	1999	2000	2001	
Columbia Regional Airport, Columbia (COU)	ACE	RI	Number		1			1
			Rate		2.41			0.62
			Severity A					
			Severity B					
			Severity C					
			Severity D		1			1
			Collision					
			Insufficient Data					
Joplin Regional Airport, Joplin (JLN)	ACE	SI	Number				1	1
			Number	1			2	3
			Rate	2.52			5.42	1.95
			Severity A					
			Severity B					
			Severity C					
			Severity D	1			2	3
			Collision					
Kansas City Downtown Airport, Kansas City (MKC)	ACE	RI	Number			2		2
			Rate			1.56		0.37
			Severity A			1		1
			Severity B					
			Severity C			1		1
			Severity D					
			Collision					
			Insufficient Data					
Kansas City International, Kansas City (MCI)	ACE	SI	Number	1	1	7	2	11
			Number					
			Rate					
			Severity A					
			Severity B					
			Severity C					
			Severity D					
			Collision					
Springfield - Branson Regional Airport, Springfield (SGF)	ACE	RI	Number		2	3		5
			Number		1	1	1	3
			Rate		0.80	0.95	0.98	0.68
			Severity A					
			Severity B					
			Severity C				1	1
			Severity D		1	1		2
			Collision					
St. Louis - Lambert International, St. Louis (STL)	ACE	SI	Number	1	1			2
			Number	9	7	6	9	31
			Rate	1.79	1.40	1.24	1.88	1.58
			Severity A	1				1
			Severity B	2				2
			Severity C	2	5	4	4	15
			Severity D	4	2	2	5	13
			Collision					
St. Louis - Spirit of St. Louis Field, St. Louis (SUS)	ACE	RI	Number					
			Rate			1.47		0.36
			Severity A					
			Severity B			1		1
			Severity C			1		1
			Severity D			1		1
			Collision					
			Insufficient Data					
St. Louis - Spirit of St. Louis Field, St. Louis (SUS)	ACE	SI	Number	7	6	6	5	24
			Number		4	8	1	13

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MONTANA

Airport Name, City (Airport Code)	Region	Type	Data	Year				Totals
				1998	1999	2000	2001	
Billings Logan International, Billings (BIL)	ANM	RI	Number					
			Rate					
			Severity A					
			Severity B					
			Severity C					
			Severity D					
			Collision					
			Insufficient Data					
Great Falls International, Great Falls (GTF)	ANM	RI	Number			1		1
			Rate					
			Severity A					
			Severity B					
			Severity C					
			Severity D					
			Collision					
			Insufficient Data					
Missoula International, Missoula (MSO)	ANM	RI	Number				1	1
			Rate					
			Severity A					
			Severity B					
			Severity C					
			Severity D					
			Collision					
			Insufficient Data					
		SI	Number	2			2	4

NEBRASKA

Airport Name, City (Airport Code)	Region	Type	Data	Year				Totals
				1998	1999	2000	2001	
Central Nebraska Regional, Grand Island (GRI)	ACE	RI	Number				1	1
			Rate				4.27	1.03
			Severity A					
			Severity B					
			Severity C				1	1
			Severity D					
			Collision					
			Insufficient Data					
Lincoln Municipal Airport, Lincoln (LNK)	ACE	RI	Number	2	4	1	1	8
			Rate	1.62	3.18	0.87	0.94	1.70
			Severity A		1			1
			Severity B	1	1			2
			Severity C		1			1
			Severity D	1	1	1	1	4
			Collision					
			Insufficient Data					
Omaha - Eppley Airfield, Omaha (OMA)	ACE	RI	Number	3	3	1	4	11
			Rate	1	1	3	2	7
			Severity A	0.58	0.53	1.79	1.39	1.04
			Severity B					
			Severity C			2	2	4
			Severity D	1	1	1		3
			Collision					
			Insufficient Data					
		SI	Number		2	1	6	9

NEVADA

Airport Name, City (Airport Code)	Region	Type	Data	Year				Totals
				1998	1999	2000	2001	
Elko Municipal, Elko (EKO)	AWP	RI	Number	1				1
			Rate	3.93				0.91
			Severity A					
			Severity B					
			Severity C					
			Severity D	1				1
			Collision					
			Insufficient Data					
Las Vegas - McCarran International, Las Vegas (LAS)	AWP	SI	Number			1	2	3
			Rate					
			Severity A					
			Severity B					
			Severity C					
			Severity D					
			Collision					
			Insufficient Data					
North Las Vegas Airport, Las Vegas (VGT)	AWP	RI	Number	5	4	2	5	16
			Rate	1.06	0.74	0.38	1.00	0.79
			Severity A					
			Severity B	1			1	2
			Severity C	3	3	2	1	9
			Severity D	1	1		3	5
			Collision					
			Insufficient Data					
Reno - Tahoe International, Reno (RNO)	AWP	SI	Number	9	2	1	1	13
			Rate					
			Severity A					
			Severity B					
			Severity C					
			Severity D					
			Collision					
			Insufficient Data					
Reno - Tahoe International, Reno (RNO)	AWP	RI	Number	4	3	17	8	32
			Rate	1.52	1.31	7.54	4.16	3.51
			Severity A				1	1
			Severity B	1	2	2		5
			Severity C	3		3	1	7
			Severity D		1	12	6	19
			Collision					
			Insufficient Data					
Reno - Tahoe International, Reno (RNO)	AWP	SI	Number	3	1	23	6	33
			Rate					
			Severity A		2	1	2	5
			Severity B		1.31	0.67	1.43	0.84
			Severity C					
			Severity D					
			Collision					
			Insufficient Data					
Reno - Tahoe International, Reno (RNO)	AWP	SI	Number	5	31	19	6	61
			Rate					
			Severity A					
			Severity B					
			Severity C					
			Severity D					
			Collision					
			Insufficient Data					

NEW HAMPSHIRE

Airport Name, City (Airport Code)	Region	Type	Data	Year				Totals
				1998	1999	2000	2001	
Manchester Airport, Manchester (MHT)	ANE	RI	Number					
			Rate					
			Severity A					
			Severity B					
			Severity C					
			Severity D					
			Collision					
			Insufficient Data					
Manchester Airport, Manchester (MHT)	ANE	SI	Number	2	2	2	3	9
			Rate					

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NEW JERSEY

Airport Name, City (Airport Code)	Region	Type	Data	Year				Totals
				1998	1999	2000	2001	
Caldwell Airport, Caldwell (CDW)	AEA	RI	Number			1		1
			Rate			0.50		0.12
			Severity A					
			Severity B					
			Severity C					
			Severity D			1		1
			Collision					
			Insufficient Data					
Morristown Municipal, Morristown (MMU)	AEA	SI	Number	2	2		2	6
			Rate	0.76				0.20
			Severity A					
			Severity B					
			Severity C	1				1
			Severity D	1				1
			Collision					
			Insufficient Data					
Newark International, Newark (EWR)	AEA	RI	Number	8	3	5	4	20
			Rate	1.73	0.65	1.09	0.90	1.09
			Severity A		1			1
			Severity B	1		1		2
			Severity C	6		4		10
			Severity D	1	2		4	7
			Collision					
			Insufficient Data					
Teterboro Airport, Teterboro (TEB)	AEA	SI	Number	4	4	5	5	18
			Rate	0.89	1.20	1.77	0.40	1.09
			Severity A					
			Severity B	1	1			2
			Severity C			2		2
			Severity D	1	2	3	1	7
			Collision					
			Insufficient Data					
Trenton Mercer Airport, Trenton (TTN)	AEA	RI	Number	1				1
			Rate	0.82				0.18
			Severity A					
			Severity B					
			Severity C					
			Severity D	1				1
			Collision					
			Insufficient Data					
		SI	Number		2		3	5
			Number			3		3

NEW MEXICO

Airport Name, City (Airport Code)	Region	Type	Data	Year				Totals
				1998	1999	2000	2001	
Albuquerque International Sunport, Albuquerque (ABQ)	ASW	RI	Number			4	2	6
			Rate			1.72	0.83	0.64
			Severity A			1		1
			Severity B			1	1	2
			Severity C			1	1	2
			Severity D			1		1
			Collision					
			Insufficient Data					
Four Corners Regional, Farmington (FMN)	ASW	SI	Number		3		2	5
			Rate		0.93			0.20
			Severity A					
			Severity B		1			1
			Severity C					
			Severity D					
			Collision					
			Insufficient Data					
		SI	Number		1			1

NEW MEXICO (continued)

Airport Name, City (Airport Code)	Region	Type	Data	Year				Totals
				1998	1999	2000	2001	
Roswell Industrial Air Center, Roswell (ROW)	ASW	RI	Number					
			Rate					
			Severity A					
			Severity B					
			Severity C					
			Severity D					
			Collision					
			Insufficient Data					
Sante Fe Municipal, Santa Fe (SAF)	ASW	RI	Number			1	1	2
			Rate				2.55	0.62
			Severity A					
			Severity B					
			Severity C				1	1
			Severity D				1	1
			Collision					
			Insufficient Data					
		SI	Number			2	1	3

NEW YORK

Airport Name, City (Airport Code)	Region	Type	Data	Year				Totals
				1998	1999	2000	2001	
Albany International, Albany (ALB)	AEA	RI	Number			2		2
			Rate			1.38		0.34
			Severity A					
			Severity B					
			Severity C			1		1
			Severity D			1		1
			Collision					
			Insufficient Data					
Binghamton Regional, Binghamton (BGM)	AEA	RI	Number	1	3			4
			Rate				1	1
			Severity A					
			Severity B				1	1
			Severity C					
			Severity D					
			Collision					
			Insufficient Data					
		SI	Number			1	1	2
Buffalo International, Buffalo (BUF)	AEA	RI	Number			1		1
			Rate			0.60		0.16
			Severity A					
			Severity B					
			Severity C			1		1
			Severity D					
			Collision					
			Insufficient Data					
Dutchess County Airport, Poughkeepsie (POU)	AEA	RI	Number		5	1		6
			Rate			0.81		0.19
			Severity A					
			Severity B					
			Severity C			1		1
			Severity D					
			Collision					
			Insufficient Data					
Elmira Corning Regional, Elmira (ELM)	AEA	RI	Number	1	3	2	2	8
			Rate					
			Severity A					
			Severity B					
			Severity C					
			Severity D					
			Collision					
			Insufficient Data					
		SI	Number		1	2	1	4

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NEW YORK (continued)

Airport Name, City (Airport Code)	Region	Type	Data	Year				Totals
				1998	1999	2000	2001	
Farmingdale - Republic Airport, Farmingdale (FRG)	AEA	RI	Number	1	5	1		7
			Rate	0.42	2.09	0.47		0.79
			Severity A		1			1
			Severity B					
			Severity C		4	1		5
			Severity D	1				1
			Collision					
			Insufficient Data					
Long Island McArthur International, Islip (ISP)	AEA	SI	Number	1		1	2	4
			Rate			1.26	0.88	0.57
			Severity A			1		1
			Severity B					
			Severity C				2	2
			Severity D			2		2
			Collision					
			Insufficient Data					
New York - John F. Kennedy International, New York (JFK)	AEA	RI	Number	2	5		3	10
			Rate	0.56	1.41		0.94	0.72
			Severity A		1			1
			Severity B	1				1
			Severity C	1	2			3
			Severity D		2		3	5
			Collision					
			Insufficient Data					
New York - La Guardia International, New York (LGA)	AEA	SI	Number	2	1	2	1	6
			Rate	3	2	3	3	11
			Severity A	0.83	0.54	0.77	0.80	0.73
			Severity B	1		1		2
			Severity C				1	1
			Severity D	2	2	1	1	6
			Collision			1	1	2
			Insufficient Data					
Niagra Falls International, Niagra Falls (IAG)	AEA	SI	Number	1		2	1	4
			Rate					
			Severity A					
			Severity B					
			Severity C					
			Severity D					
			Collision					
			Insufficient Data					
Rochester - Greater Rochester International, Rochester (ROC)	AEA	RI	Number	1	2	2	3	8
			Rate	0.53	1.05	1.12	1.78	1.10
			Severity A					
			Severity B				1	1
			Severity C		1		1	2
			Severity D	1	1	2	1	5
			Collision					
			Insufficient Data					
Stewart International, Newburgh (SWF)	AEA	SI	Number	1	3	10	7	21
			Rate			0.73		0.17
			Severity A					
			Severity B					
			Severity C			1		1
			Severity D					
			Collision					
			Insufficient Data					
Syracuse Hancock International, Syracuse (SYR)	AEA	RI	Number	2		1	1	4
			Rate	1.33		0.71	0.69	0.68
			Severity A					
			Severity B					
			Severity C	1		1	1	3
			Severity D	1				1
			Collision					
			Insufficient Data					
	AEA	SI	Number	3	3	2	2	10

NEW YORK (continued)

Airport Name, City (Airport Code)	Region	Type	Data	Year				Totals
				1998	1999	2000	2001	
Tompkins County Airport, Ithaca (ITH)	AEA	RI	Number			1		1
			Rate			1.91		0.48
			Severity A					
			Severity B					
			Severity C					
			Severity D			1		1
			Collision					
			Insufficient Data					
Utica International, Utica (UCA)	AEA	SI	Number		2	2		4
			Rate			1.86		0.46
			Severity A					
			Severity B					
			Severity C					
			Severity D			1		1
			Collision					
			Insufficient Data					
White Plains - Westchester County Airport, White Plains (HPN)	AEA	RI	Number	1	1	3		5
			Rate	0.51	0.45	1.38		0.59
			Severity A	1	1			2
			Severity B					
			Severity C			1		1
			Severity D			2		2
			Collision					
			Insufficient Data					
		SI	Number		1	3	1	5

NORTH CAROLINA

Airport Name, City (Airport Code)	Region	Type	Data	Year				Totals
				1998	1999	2000	2001	
Asheville Regional, Asheville (AVL)	ASO	RI	Number					
			Rate					
			Severity A					
			Severity B					
			Severity C					
			Severity D					
			Collision					
			Insufficient Data					
Charlotte - Douglas International, Charlotte (CLT)	ASO	SI	Number			2		2
			Rate					
			Severity A					
			Severity B					
			Severity C			2	2	4
			Severity D				3	3
			Collision					
			Insufficient Data					
Fayetteville Regional Grannis Field, Fayetteville (FAY)	ASO	RI	Number	6	2	4	2	14
			Rate					
			Severity A					
			Severity B					
			Severity C					
			Severity D					
			Collision					
			Insufficient Data					
Greensboro - Piedmont Triad International, Greensboro (GSO)	ASO	SI	Number			1		1
			Rate			0.72		0.19
			Severity A					
			Severity B					
			Severity C			1		1
			Severity D					
			Collision					
			Insufficient Data					
		SI	Number		3	5		8

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NORTH CAROLINA (continued)

Airport Name, City (Airport Code)	Region	Type	Data	Year				Totals
				1998	1999	2000	2001	
Hickory Regional, Hickory (HKY)	ASO	RI	Number					
			Rate					
			Severity A					
			Severity B					
			Severity C					
			Severity D					
			Collision					
			Insufficient Data					
Raleigh - Durham International, Raleigh (RDU)	ASO	RI	Number				1	1
			Rate		2	3	2	7
			Severity A		0.69	1.01	0.73	0.63
			Severity B			1		1
			Severity C			2	1	3
			Severity D		2		1	3
			Collision					
			Insufficient Data					
Seymour Johnson Air Force Base, Goldsboro (GSP)	ASO	RI	Number	4	5	6	7	22
			Rate					
			Severity A					
			Severity B					
			Severity C					
			Severity D					
			Collision					
			Insufficient Data					
Smith Reynolds Airport, Winston-Salem (INT)	ASO	RI	Number	2				2
			Rate			1		1
			Severity A			1.38		0.35
			Severity B					
			Severity C					
			Severity D			1		1
			Collision					
			Insufficient Data					
Wilmington International, Wilmington (ILM)	ASO	SI	Number					
			Number	2	1	2	2	7
			Severity A					
			Severity B			1		1
			Severity C	1				1
			Severity D	1	1	1	2	5
			Collision					
			Insufficient Data					
		SI	Number	1	2	4		7

NORTH DAKOTA

Airport Name, City (Airport Code)	Region	Type	Data	Year				Totals
				1998	1999	2000	2001	
Fargo - Hector International, Fargo (FAR)	AGL	RI	Number	1	4			5
			Rate	1.12	4.38			1.36
			Severity A					
			Severity B		1			1
			Severity C					
			Severity D	1	3			4
			Collision					
			Insufficient Data					
Grand Forks International, Grand Forks (GFK)	AGL	RI	Number	1		1	2	4
			Rate	0.47		0.42	0.74	0.42
			Severity A					
			Severity B					
			Severity C				2	2
			Severity D	1		1		2
			Collision					
			Insufficient Data					
		SI	Number	1		6	2	9

OHIO

Airport Name, City (Airport Code)	Region	Type	Data	Year				Totals
				1998	1999	2000	2001	
Akron-Canton Regional, Akron (CAK)	AGL	RI	Number				1	1
			Rate				0.80	0.20
			Severity A					
			Severity B				1	1
			Severity C					
			Severity D					
			Collision					
			Insufficient Data					
Bolton Field Airport, Columbus (TZR)	AGL	RI	Number	1	1	1	3	6
			Rate					
			Severity A					
			Severity B					
			Severity C					
			Severity D					
			Collision					
			Insufficient Data					
Cincinnati Municipal Airport Lunken Field, Cincinnati (LUK)	AGL	RI	Number				1	1
			Rate				0.80	0.20
			Severity A					
			Severity B					
			Severity C					
			Severity D				1	1
			Collision					
			Insufficient Data					
Cleveland - Hopkins International, Cleveland (CLE)	AGL	RI	Number		1		10	11
			Rate	6	3	1	1	11
			Severity A	1.94	0.93	0.30	0.34	0.88
			Severity B					
			Severity C	3	2	1		6
			Severity D	3	1		1	5
			Collision					
			Insufficient Data					
Cuyahoga County Airport, Cleveland (CGF)	AGL	RI	Number	2	6	3	11	22
			Rate					
			Severity A					
			Severity B					
			Severity C					
			Severity D					
			Collision					
			Insufficient Data					
Dayton International, Dayton (DAY)	AGL	RI	Number	1			1	2
			Rate	0.65			0.76	0.34
			Severity A				1	1
			Severity B					
			Severity C					
			Severity D	1				1
			Collision					
			Insufficient Data					
Mansfield Lahm Regional, Mansfield (MFD)	AGL	RI	Number	1	12	1	4	18
			Rate					
			Severity A					
			Severity B					
			Severity C					
			Severity D					
			Collision					
			Insufficient Data					
Ohio State University Airport, Columbus (OSU)	AGL	RI	Number		2	1	1	4
			Rate				1.01	0.22
			Severity A					
			Severity B					
			Severity C					
			Severity D				1	1
			Collision					
			Insufficient Data					
	AGL	SI	Number				1	1

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OHIO (continued)

Airport Name, City (Airport Code)	Region	Type	Data	Year				Totals
				1998	1999	2000	2001	
Port Columbus International, Columbus (CMH)	AGL	RI	Number				1	1
			Rate				0.41	0.11
			Severity A					
			Severity B					
			Severity C					
			Severity D				1	1
			Collision					
			Insufficient Data					
Toledo Express Airport, Toledo (TOL)	AGL	SI	Number		2	1		3
			Rate					
			Severity A					
			Severity B					
			Severity C					
			Severity D					
			Collision					
			Insufficient Data					
Youngstown Warren Regional Airport, Youngstown (YNG)	AGL	RI	Number	1				1
			Rate	0.91				0.27
			Severity A					
			Severity B					
			Severity C	1				1
			Severity D					
			Collision					
			Insufficient Data					
		SI	Number	2	5	2	1	10

OKLAHOMA

Airport Name, City (Airport Code)	Region	Type	Data	Year				Totals
				1998	1999	2000	2001	
Enid Woodring Regional, Enid (WDG)	ASW	RI	Number				1	1
			Rate				1.68	0.45
			Severity A					
			Severity B					
			Severity C					
			Severity D				1	1
			Collision					
			Insufficient Data					
Lawton Fort Sill Regional, Lawton (LAW)	ASW	SI	Number			1		1
			Rate					
			Severity A					
			Severity B					
			Severity C					
			Severity D					
			Collision					
			Insufficient Data					
Tulsa - Richard Lloyd Jones Jr. Airport, Tulsa (RVS)	ASW	RI	Number	2	5	1	2	10
			Rate	0.73	1.84	0.39	0.71	0.92
			Severity A					
			Severity B					
			Severity C		1		1	2
			Severity D	2	4	1	1	8
			Collision					
			Insufficient Data					
Tulsa International, Tulsa (TUL)	ASW	SI	Number	3	9	4	1	17
			Rate					
			Severity A					
			Severity B					
			Severity C				1	1
			Severity D					
			Collision					
			Insufficient Data					
		SI	Number	3				3

OKLAHOMA (continued)

Airport Name, City (Airport Code)	Region	Type	Data	Year				Totals
				1998	1999	2000	2001	
University of Oklahoma Westheimer, Norman (OUN)	ASW	RI	Number				1	1
			Rate				0.82	0.21
			Severity A					
			Severity B					
			Severity C				1	1
			Severity D					
			Collision					
			Insufficient Data					
Wiley Post Airport, Oklahoma City (PWA)	ASW	RI	Number			1		1
			Rate			1.15		0.28
			Severity A					
			Severity B					
			Severity C					
			Severity D			1		1
			Collision					
			Insufficient Data					
Will Rogers World Airport, Oklahoma City (OKC)	ASW	RI	Number	2	1	3	2	8
			Rate		1.22		0.57	0.45
			Severity A					
			Severity B					
			Severity C		2			2
			Severity D				1	1
			Collision					
			Insufficient Data					
		SI	Number		2	2	2	6

OREGON

Airport Name, City (Airport Code)	Region	Type	Data	Year				Totals
				1998	1999	2000	2001	
Klamath Falls International, Klamath Falls (LMT)	ANM	RI	Number				1	1
			Rate				2.17	0.58
			Severity A					
			Severity B					
			Severity C					
			Severity D				1	1
			Collision					
			Insufficient Data					
Mahlon Sweet Field, Eugene (EUG)	ANM	RI	Number		2		4	6
			Rate		1.76		3.87	1.38
			Severity A					
			Severity B		1			1
			Severity C				2	2
			Severity D		1		2	3
			Collision					
			Insufficient Data					
McNary Field, Salem (SLE)	ANM	RI	Number	2	2		7	11
			Rate				2.04	0.50
			Severity A					
			Severity B					
			Severity C				1	1
			Severity D					
			Collision					
			Insufficient Data					
Portland - Hillsboro Airport, Portland (HIO)	ANM	RI	Number	2				2
			Rate	0.87				0.21
			Severity A					
			Severity B	1				1
			Severity C					
			Severity D	1				1
			Collision					
			Insufficient Data					
		SI	Number	1	1			2

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OREGON (continued)

Airport Name, City (Airport Code)	Region	Type	Data	Year				Totals
				1998	1999	2000	2001	
Portland - Troutdale Airport, Portland (TTD)	ANM	RI	Number			5	1	6
			Rate			6.66	1.45	2.00
			Severity A					
			Severity B					
			Severity C			3		3
			Severity D			2	1	3
			Collision					
			Insufficient Data					
Portland International, Portland (PDX)	ANM	SI	Number		3	6	3	12
			Rate			1		1
			Severity A			0.31		0.08
			Severity B			1		1
			Severity C					
			Severity D					
			Collision					
			Insufficient Data					
Roberts Field Airport, Redmond (RDM)	ANM	SI	Number	1	2	1	7	11
			Rate			2	3	5
			Severity A			3.58	5.56	2.55
			Severity B					
			Severity C				2	2
			Severity D			2	1	3
			Collision					
			Insufficient Data					
Rogue Valley International Medford, Medford (MFR)	ANM	SI	Number			1		1
			Rate					
			Severity A					
			Severity B					
			Severity C					
			Severity D					
			Collision					
			Insufficient Data					
	ANM	SI	Number		1			1

PENNSYLVANIA

Airport Name, City (Airport Code)	Region	Type	Data	Year				Totals
				1998	1999	2000	2001	
Allegheny County Airport, Pittsburgh (AGC)	AEA	RI	Number	1				1
			Rate	0.73				0.20
			Severity A					
			Severity B					
			Severity C					
			Severity D	1				1
			Collision					
			Insufficient Data					
Capital City, Harrisburg (CXY)	AEA	SI	Number	4	4	8	3	19
			Rate				1	1
			Severity A				1.51	0.41
			Severity B					
			Severity C				1	1
			Severity D					
			Collision					
			Insufficient Data					
Erie International Tom Ridge Field, Erie (ERI)	AEA	SI	Number	1				1
			Rate					
			Severity A					
			Severity B					
			Severity C					
			Severity D					
			Collision					
			Insufficient Data					
	AEA	SI	Number	1		2	1	4

PENNSYLVANIA (continued)

Airport Name, City (Airport Code)	Region	Type	Data	Year				Totals
				1998	1999	2000	2001	
Lancaster Airport, Lancaster (LNS)	AEA	RI	Number	2				2
			Rate	1.82				0.47
			Severity A					
			Severity B					
			Severity C					
			Severity D	2				2
			Collision					
			Insufficient Data					
Lehigh Valley International, Allentown (ABE)	AEA	RI	Number		1			1
			Rate		1.37			0.35
			Severity A					
			Severity B					
			Severity C		2			2
			Severity D					
			Collision					
			Insufficient Data					
Northeast Philadelphia Airport, Philadelphia (PNE)	AEA	RI	Number			2		2
			Rate					
			Severity A					
			Severity B					
			Severity C					
			Severity D					
			Collision					
			Insufficient Data					
Philadelphia International, Philadelphia (PHL)	AEA	RI	Number	1		1		2
			Rate	5	1	3		9
			Severity A	1.07	0.21	0.62		0.47
			Severity B	1				1
			Severity C	1	1	1		3
			Severity D	3		2		5
			Collision					
			Insufficient Data					
Pittsburgh International, Pittsburgh (PIT)	AEA	RI	Number		1	4	2	7
			Rate	4		2		6
			Severity A	0.89		0.45		0.34
			Severity B	1				1
			Severity C	3		1		4
			Severity D					
			Collision					
			Insufficient Data			1		1
Reading Regional Airport, Reading (RDG)	AEA	RI	Number		2	3		5
			Rate		1.47		1.37	0.69
			Severity A					
			Severity B					
			Severity C		1		1	2
			Severity D		1		1	2
			Collision					
			Insufficient Data					
Wilkes-Barre Scranton International, Wilkes-Barre/Scranton (AVP)	AEA	RI	Number	1	4	1		6
			Rate					
			Severity A					
			Severity B					
			Severity C					
			Severity D					
			Collision					
			Insufficient Data					
Williamsport Regional, Williamsport (IPT)	AEA	RI	Number			1		1
			Rate					
			Severity A					
			Severity B					
			Severity C					
			Severity D					
			Collision					
			Insufficient Data				2	2
		SI	Number				2	2
			Rate					
			Severity A					
			Severity B					
			Severity C					
			Severity D					
			Collision					
			Insufficient Data					

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PUERTO RICO

Airport Name, City (Airport Code)	Region	Type	Data	Year				Totals
				1998	1999	2000	2001	
San Juan - Luis Muñoz Marin International, San Juan (SJU)	ASO	RI	Number	1	6		3	10
			Rate	0.50	2.68		1.46	1.16
			Severity A					
			Severity B					
			Severity C	1	2		1	4
			Severity D		4		2	6
			Collision					
			Insufficient Data					
	SI		Number	7	8	19	9	43

RATAK ISLANDS

Airport Name, City (Airport Code)	Region	Type	Data	Year				Totals
				1998	1999	2000	2001	
Bucholz AAF, Kwajalein (KWA)	AWP	RI	Number					
			Rate					
			Severity A					
			Severity B					
			Severity C					
			Severity D					
			Collision					
			Insufficient Data					
	SI		Number				4	4

RHODE ISLAND

Airport Name, City (Airport Code)	Region	Type	Data	Year				Totals
				1998	1999	2000	2001	
Providence - Green State Airport, Providence (PVD)	ANE	RI	Number	2	5	4	1	12
			Rate	1.28	3.20	2.57	0.67	1.95
			Severity A		1			1
			Severity B					
			Severity C	1	1	2		4
			Severity D	1	3	2	1	7
			Collision					
			Insufficient Data					
	SI		Number	1	6	6	2	15

SOUTH CAROLINA

Airport Name, City (Airport Code)	Region	Type	Data	Year				Totals
				1998	1999	2000	2001	
Charleston Air Force Base/International Airport, Charleston (CHS)	ASO	RI	Number		3	2		5
			Rate		2.18	1.47		0.99
			Severity A					
			Severity B					
			Severity C		2			2
			Severity D		1	2		3
			Collision					
			Insufficient Data					
	SI		Number	5	3		2	10
Columbia Metropolitan, Columbia (CAE)	ASO	RI	Number					
			Rate					
			Severity A					
			Severity B					
			Severity C					
			Severity D					
			Collision					
			Insufficient Data					
	SI		Number	2		1	1	4

SOUTH CAROLINA (continued)

Airport Name, City (Airport Code)	Region	Type	Data	Year				Totals
				1998	1999	2000	2001	
Florence Regional, Florence (FLO)	ASO	RI	Number				1	1
			Rate				2.57	0.68
			Severity A				1	1
			Severity B					
			Severity C					
			Severity D					
			Collision					
			Insufficient Data					
Grand Strand, North Myrtle Beach (CRE)	ASO	RI	Number					
			Rate					
			Severity A					
			Severity B					
			Severity C					
			Severity D					
			Collision					
			Insufficient Data					
Greenville Downtown, Greenville (GMU)	ASO	RI	Number				1	1
			Rate				1.23	0.28
			Severity A					
			Severity B					
			Severity C					
			Severity D				1	1
			Collision					
			Insufficient Data					
Myrtle Beach International, Myrtle Beach (MYR)	ASO	RI	Number			1	1	2
			Rate					
			Severity A					
			Severity B					
			Severity C					
			Severity D					
			Collision					
			Insufficient Data					
	SI		Number		4			4

SOUTH DAKOTA

Airport Name, City (Airport Code)	Region	Type	Data	Year				Totals
				1998	1999	2000	2001	
Rapid City Regional, Rapid City (RAP)	AGL	RI	Number			1		1
			Rate			1.75		0.42
			Severity A					
			Severity B					
			Severity C					
			Severity D			1		1
			Collision					
			Insufficient Data					
Sioux Falls - Joe Foss Field, Sioux Falls (FSD)	AGL	RI	Number	3		1		4
			Rate	3.10		0.97		0.98
			Severity A					
			Severity B	1				1
			Severity C	1				1
			Severity D	1		1		2
			Collision					
			Insufficient Data					
	SI		Number			3	1	4

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TENNESSEE

Airport Name, City (Airport Code)	Region	Type	Data	Year				Totals
				1998	1999	2000	2001	
Knoxville - McGhee Tyson Airport, Knoxville (TYS)	ASO	RI	Number	3	1	4	2	10
			Rate	2.02	0.67	2.69	1.34	1.68
			Severity A					
			Severity B					
			Severity C	3			1	4
			Severity D		1	4	1	6
			Collision					
			Insufficient Data					
Lovell Field Airport, Chattanooga (CHA)	ASO	SI	Number	1	1	2	4	8
			Rate					
			Severity A					
			Severity B					
			Severity C					
			Severity D					
			Collision					
			Insufficient Data					
Mc Kellar Sipes Regional, Jackson (MKL)	ASO	RI	Number	2		1	1	4
			Rate					
			Severity A					
			Severity B					
			Severity C					
			Severity D					
			Collision					
			Insufficient Data					
Memphis International, Memphis (MEM)	ASO	SI	Number		1	3	3	7
			Rate	2	1	2	3	8
			Severity A	0.55	0.27	0.52	0.76	0.53
			Severity B					
			Severity C	2	1	1	1	5
			Severity D			1	2	3
			Collision					
			Insufficient Data					
Nashville International, Nashville (BNA)	ASO	SI	Number	1	1	3	2	7
			Rate	2	3	1	1	7
			Severity A	0.88	1.24	0.40	0.42	0.73
			Severity B					
			Severity C	1	2			3
			Severity D	1	1	1	1	4
			Collision					
			Insufficient Data					
Smyrna Airport, Smyrna (MQY)	ASO	SI	Number	1	2	8	2	13
			Rate					
			Severity A					
			Severity B					
			Severity C					
			Severity D					
			Collision					
			Insufficient Data					
Tri-Cities Regional TN/VA-Bristol/Johnson/Kingsport (TRI)	ASO	SI	Number	1			1	2
			Rate					
			Severity A					
			Severity B					
			Severity C					
			Severity D					
			Collision					
			Insufficient Data					
		SI	Number	3				3
			Rate					
			Severity A					
			Severity B					
			Severity C					
			Severity D					
			Collision					
			Insufficient Data					

TEXAS

Airport Name, City (Airport Code)	Region	Type	Data	Year				Totals
				1998	1999	2000	2001	
Abilene Regional Airport, Abilene (ABI)	ASW	RI	Number	1				1
			Rate	1.22				0.30
			Severity A					
			Severity B					
			Severity C	1				1
			Severity D					
			Collision					
			Insufficient Data					
Amarillo International, Amarillo (AMA)	ASW	RI	Number	6		2	1	9
			Rate			0.83	0.85	0.41
			Severity A					
			Severity B					
			Severity C			1		1
			Severity D				1	1
			Collision					
			Insufficient Data					
Austin - Bergstrom International, Austin (AUS)	ASW	RI	Number	1	1			2
			Rate	0.53	0.54			0.25
			Severity A		1			1
			Severity B					
			Severity C	1				1
			Severity D					
			Collision					
			Insufficient Data					
Brownsville/South Padre Island International, Brownsville (BRO)	ASW	RI	Number				1	1
			Rate				3.16	0.74
			Severity A					
			Severity B					
			Severity C					
			Severity D				1	1
			Collision					
			Insufficient Data					
Dallas - Addison Airport, Dallas (ADS)	ASW	RI	Number	3	2	1	1	7
			Rate	1.71	1.16	0.61	0.62	1.04
			Severity A	1				1
			Severity B					
			Severity C	1	1	1		3
			Severity D	1	1		1	3
			Collision					
			Insufficient Data					
Dallas - Love Field, Dallas (DAL)	ASW	RI	Number		2	5	2	9
			Rate	3		1		4
			Severity A	1.27		0.39		0.41
			Severity B					
			Severity C	1				1
			Severity D	2		1		3
			Collision					
			Insufficient Data					
Dallas-Ft. Worth International, Dallas (DFW)	ASW	RI	Number	4	2	3	1	10
			Rate	5	7	3	6	21
			Severity A	0.54	0.81	0.35	0.75	0.61
			Severity B		1		1	2
			Severity C	1	1	1	2	5
			Severity D	4	5		1	10
			Collision			2	2	4
			Insufficient Data					
El Paso International, El Paso (ELP)	ASW	RI	Number			4	2	6
			Rate		1		1	2
			Severity A		0.69		0.79	0.36
			Severity B					
			Severity C		1			1
			Severity D				1	1
			Collision					
			Insufficient Data					
	ASW	SI	Number	1	1	1	1	4

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TEXAS (continued)

Airport Name, City (Airport Code)	Region	Type	Data	Year				Totals
				1998	1999	2000	2001	
Fort Worth Alliance, Fort Worth (AFW)	ASW	RI	Number					
			Rate					
			Severity A					
			Severity B					
			Severity C					
			Severity D					
			Collision					
			Insufficient Data					
Fort Worth Meacham International, Fort Worth (FTW)	ASW	SI	Number	3			1	4
			Rate					
			Severity A					
			Severity B					
			Severity C					
			Severity D					
			Collision					
			Insufficient Data					
George Bush Intercontinental, Houston (IAH)	ASW	RI	Number	1	1			2
			Rate	0.22	0.22			0.11
			Severity A					
			Severity B					
			Severity C		1			1
			Severity D	1				1
			Collision					
			Insufficient Data					
Grand Prairie Municipal, Grand Prairie (GPM)	ASW	SI	Number			1		1
			Rate					
			Severity A					
			Severity B					
			Severity C					
			Severity D					
			Collision					
			Insufficient Data					
Gregg County Airport, Longview (GGG)	ASW	RI	Number	2				2
			Rate					
			Severity A					
			Severity B					
			Severity C					
			Severity D					
			Collision					
			Insufficient Data					
Houston - David Wayne Hooks Memorial Airport, Houston (DWH)	ASW	SI	Number	1	4	3	1	9
			Rate					
			Severity A					
			Severity B					
			Severity C			1		1
			Severity D		3	2	1	6
			Collision					
			Insufficient Data					
Houston - Hobby International, Houston (HOU)	ASW	RI	Number	2	2	1	2	7
			Rate	0.78	0.77	0.40	0.81	0.69
			Severity A	1				1
			Severity B		1			1
			Severity C			1	2	3
			Severity D	1	1			2
			Collision					
			Insufficient Data					
Laredo International, Laredo (LRD)	ASW	SI	Number	1	1	1	4	7
			Rate					
			Severity A					
			Severity B					
			Severity C	1				1
			Severity D					
			Collision					
			Insufficient Data					

TEXAS (continued)

Airport Name, City (Airport Code)	Region	Type	Data	Year				Totals
				1998	1999	2000	2001	
Lubbock International, Lubbock (LBB)	ASW	RI	Number		1	2		3
			Rate		0.82	1.56		0.69
			Severity A					
			Severity B					
			Severity C					
			Severity D		1	2		3
			Collision					
			Insufficient Data					
Mathis Field, San Angelo (SJT)	ASW	RI	Number			3	1	4
			Rate		1			1
			Severity A		1.03			0.29
			Severity B					
			Severity C					
			Severity D		1			1
			Collision					
			Insufficient Data					
Mc Kinney Municipal, Mc Kinney (TKI)	ASW	RI	Number					
			Rate					
			Severity A					
			Severity B					
			Severity C					
			Severity D					
			Collision					
			Insufficient Data					
Midland International, Midland (MAF)	ASW	RI	Number					
			Rate					
			Severity A					
			Severity B					
			Severity C					
			Severity D					
			Collision					
			Insufficient Data					
San Antonio International, San Antonio (SAT)	ASW	RI	Number	1				1
			Rate	4	4	2	2	12
			Severity A	1.46	1.56	0.81	0.85	1.19
			Severity B		1		1	2
			Severity C	2	1	2	1	6
			Severity D	1	2			3
			Collision					
			Insufficient Data	1				1
Southeast Texas Regional Airport, Beaumont - Port Arthur (BPT)	ASW	RI	Number	1				1
			Rate		1.80			0.47
			Severity A					
			Severity B		1			1
			Severity C					
			Severity D					
			Collision					
			Insufficient Data					
Sugar Land Municipal - Hull Field, Houston (SGR)	ASW	RI	Number	1				1
			Rate			1	1	2
			Severity A			N/A	2.74	N/A
			Severity B					
			Severity C			1	1	2
			Severity D					
			Collision					
			Insufficient Data					
Tyler Pounds Airport, Tyler (TYR)	ASW	RI	Number	1	1		1	3
			Rate			1		1
			Severity A			0.96		0.22
			Severity B					
			Severity C			1		1
			Severity D					
			Collision					
			Insufficient Data					
		SI	Number	1		1	2	4

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TEXAS (continued)

Airport Name, City (Airport Code)	Region	Type	Data	Year				Totals
				1998	1999	2000	2001	
Waco Regional Airport, Waco (ACT)	ASW	RI	Number			1	1	2
			Rate			1.75	1.74	0.88
			Severity A					
			Severity B			1		1
			Severity C					
			Severity D				1	1
			Collision					
			Insufficient Data					
		SI	Number					

UTAH

Airport Name, City (Airport Code)	Region	Type	Data	Year				Totals
				1998	1999	2000	2001	
Ogden Hinckley, Ogden (OGD)	ANM	RI	Number					
			Rate					
			Severity A					
			Severity B					
			Severity C					
			Severity D					
			Collision					
			Insufficient Data					
		SI	Number	1			1	2
Salt Lake City International, Salt Lake City (SLC)	ANM	RI	Number	1	3	4	1	9
			Rate	0.27	0.81	1.09	0.27	0.61
			Severity A					
			Severity B			1		1
			Severity C		2	1	1	4
			Severity D	1	1	2		4
			Collision					
			Insufficient Data					
		SI	Number	2	3	5	4	14

VERMONT

Airport Name, City (Airport Code)	Region	Type	Data	Year				Totals
				1998	1999	2000	2001	
Burlington International, Burlington (BTV)	ANE	RI	Number	1			2	3
			Rate	0.85			1.68	0.63
			Severity A	1				1
			Severity B					
			Severity C					
			Severity D				2	2
			Collision					
			Insufficient Data					
		SI	Number			3	2	5

VIRGIN ISLANDS

Airport Name, City (Airport Code)	Region	Type	Data	Year				Totals
				1998	1999	2000	2001	
Charlotte Amalie - Cyril King International, St. Thomas (STT)	ASO	RI	Number	2	1			3
			Rate	1.90	0.99			0.76
			Severity A	1				1
			Severity B					
			Severity C					
			Severity D	1	1			2
			Collision					
			Insufficient Data					
		SI	Number		3	1		4

VIRGINIA

Airport Name, City (Airport Code)	Region	Type	Data	Year				Totals
				1998	1999	2000	2001	
Lynchburg Regional Preston Glenn Field, Lynchburg (LYH)	AEA	RI	Number					
			Rate					
			Severity A					
			Severity B					
			Severity C					
			Severity D					
			Collision					
			Insufficient Data					
Manassas Regional Airport, Manassas (HEF)	AEA	RI	Number				2	2
			Rate				0.78	0.20
			Severity A					
			Severity B					
			Severity C				1	1
			Severity D					
			Collision					
			Insufficient Data					
Newport News Williamsburg International, Newport News (PHF)	AEA	RI	Number	1	4	1	1	7
			Rate					
			Severity A					
			Severity B					
			Severity C					
			Severity D					
			Collision					
			Insufficient Data					
Norfolk International, Norfolk (ORF)	AEA	RI	Number	1		1	2	4
			Rate		0.71		0.84	0.36
			Severity A					
			Severity B					
			Severity C		1		1	2
			Severity D					
			Collision					
			Insufficient Data					
Richmond International, Richmond (RIC)	AEA	RI	Number	1			1	2
			Rate	0.71			0.69	0.35
			Severity A					
			Severity B					
			Severity C					
			Severity D	1			1	2
			Collision					
			Insufficient Data					
Roanoke Regional - Woodrum Field, Roanoke (ROA)	AEA	RI	Number	4	6	3	2	15
			Rate	2.82	0.97		0.99	1.19
			Severity A					
			Severity B					
			Severity C	2				2
			Severity D	1	1		1	3
			Collision					
			Insufficient Data					
Washington Dulles International, Dulles (IAD)	AEA	RI	Number	6	4	2	2	14
			Rate	2		1		3
			Severity A	0.50		0.21		0.17
			Severity B					
			Severity C					
			Severity D	2		1		3
			Collision					
			Insufficient Data					
	AEA	SI	Number	2	5			7

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WASHINGTON

Airport Name, City (Airport Code)	Region	Type	Data	Year				Totals
				1998	1999	2000	2001	
Bellingham International, Bellingham (BLI)	ANM	RI	Number	1				1
			Rate	1.42				0.31
			Severity A					
			Severity B					
			Severity C					
			Severity D	1				1
			Collision					
			Insufficient Data					
Felts Field, Spokane (SFF)	ANM	RI	Number			1	1	2
			Rate			1.33	1.51	0.69
			Severity A					
			Severity B					
			Severity C				1	1
			Severity D			1		1
			Collision					
			Insufficient Data					
Grant County International, Moses Lake (MWH)	ANM	RI	Number	1	1			2
			Rate	0.74	0.78			0.40
			Severity A		1			1
			Severity B					
			Severity C					
			Severity D	1				1
			Collision					
			Insufficient Data					
Olympia Airport, Olympia (OLM)	ANM	RI	Number					
			Rate					
			Severity A					
			Severity B					
			Severity C					
			Severity D					
			Collision					
			Insufficient Data					
Renton Municipal Airport, Renton (RNT)	ANM	RI	Number		1	1		2
			Rate	0.99		0.73		0.44
			Severity A					
			Severity B					
			Severity C					
			Severity D	1		1		2
			Collision					
			Insufficient Data					
Seattle - Boeing Field - King County International, Seattle (BFI)	ANM	RI	Number	1	2	3	1	7
			Rate	0.58	0.61	0.82		0.53
			Severity A	1				1
			Severity B		1			1
			Severity C		1	1		2
			Severity D	1		2		3
			Collision					
			Insufficient Data					
Seattle - Tacoma International, Seattle (SEA)	ANM	RI	Number	5	1	3	3	12
			Rate	0.25	0.92	0.22	1.25	0.65
			Severity A				1	1
			Severity B					
			Severity C		1		3	4
			Severity D	1	3	1	1	6
			Collision					
			Insufficient Data					
Snohomish County - Paine Field, Everett (PAE)	ANM	RI	Number		6	3	11	20
			Rate		0.49	0.47	0.48	0.37
			Severity A					
			Severity B					
			Severity C				1	1
			Severity D		1	1		2
			Collision					
			Insufficient Data					
	ANM	SI	Number	2		3		5

WASHINGTON (continued)

Airport Name, City (Airport Code)	Region	Type	Data	Year				Totals
				1998	1999	2000	2001	
Spokane International, Spokane (GEG)	ANM	RI	Number				1	1
			Rate				0.91	0.22
			Severity A					
			Severity B					
			Severity C					
			Severity D				1	1
			Collision					
			Insufficient Data					
Tri-Cities Airport, Pasco (PSC)	ANM	SI	Number		1	2		3
			Rate	2	1	1		4
			Rate	2.26	1.04	1.08		1.09
			Severity A					
			Severity B	1				1
			Severity C	1		1		2
			Severity D		1			1
			Collision					
Walla Walla Regional Airport, Walla Walla (ALW)	ANM	SI	Number	1	2			3
			Rate			1		1
			Rate			2.35		0.60
			Severity A					
			Severity B					
			Severity C					
			Severity D			1		1
			Collision					
Yakima Air Terminal - McAllister Field, Yakima (YKM)	ANM	SI	Number					
			Number	1				1
			Rate	1.82				0.44
			Severity A					
			Severity B					
			Severity C	1				1
			Severity D					
			Collision					
		SI	Insufficient Data					
			Number		1	4	2	7

WEST VIRGINIA

Airport Name, City (Airport Code)	Region	Type	Data	Year				Totals
				1998	1999	2000	2001	
Charleston - Yeager Airport, Charleston (CRW)	AEA	RI	Number			1		1
			Rate			1.13		0.27
			Severity A					
			Severity B					
			Severity C					
			Severity D			1		1
			Collision					
			Insufficient Data					
Harrison Marion Regional, Clarksburg (CKB)	AEA	SI	Number			1		1
			Number				2	2
			Rate				3.52	0.83
			Severity A					
			Severity B					
			Severity C					
			Severity D				2	2
			Collision					
Morgantown Municipal, Morgantown (MGW)	AEA	SI	Insufficient Data					
			Number			1	1	2
			Number			1		1
			Rate			2.05		0.54
			Severity A					
			Severity B			1		1
			Severity C					
			Severity D					
		SI	Collision					
			Insufficient Data					
		SI	Insufficient Data					
			Number					

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WEST VIRGINIA (continued)

Airport Name, City (Airport Code)	Region	Type	Data	Year				Totals
				1998	1999	2000	2001	
Tri State Milton J Ferguson Field, Huntington (HTS)	AEA	RI	Number					
			Rate					
			Severity A					
			Severity B					
			Severity C					
			Severity D					
			Collision					
			Insufficient Data					
Wheeling Ohio County, Wheeling (HLG)	AEA	RI	Number		1	2	1	4
			Rate					
			Severity A					
			Severity B					
			Severity C					
			Severity D					
			Collision					
			Insufficient Data					
Wood County Gill Robb Wilson Field, Parkersburg (PKB)	AEA	RI	Number			1		1
			Rate					
			Severity A					
			Severity B					
			Severity C					
			Severity D					
			Collision					
			Insufficient Data					
		SI	Number	1				1

WISCONSIN

Airport Name, City (Airport Code)	Region	Type	Data	Year				Totals
				1998	1999	2000	2001	
Central Wisconsin, Mosinee (CWA)	AGL	RI	Number					
			Rate					
			Severity A					
			Severity B					
			Severity C					
			Severity D					
			Collision					
			Insufficient Data					
Dane County Regional - Truax Field, Madison (MSN)	AGL	RI	Number	1		1	1	3
			Rate	0.69		0.80	0.78	0.55
			Severity A					
			Severity B					
			Severity C	1			1	2
			Severity D			1		1
			Collision					
			Insufficient Data					
Green Bay - Austin Straubel International, Green Bay (GRB)	AGL	RI	Number			2	1	3
			Rate			4.58		1.11
			Severity A					
			Severity B					
			Severity C			1		1
			Severity D			2		2
			Collision					
			Insufficient Data					
Kenosha Regional Airport, Kenosha (ENW)	AGL	RI	Number	1				1
			Rate	1.27				0.28
			Severity A					
			Severity B					
			Severity C					
			Severity D	1				1
			Collision					
			Insufficient Data					
		SI	Number		1		1	2

WISCONSIN (continued)

Airport Name, City (Airport Code)	Region	Type	Data	Year				Totals
				1998	1999	2000	2001	
Milwaukee - General Mitchell International, Milwaukee (MKE)	AGL	RI	Number	4	3	3	2	12
			Rate	1.83	1.35	1.35	0.95	1.37
			Severity A			1		1
			Severity B	2	2		1	5
			Severity C	1		1		2
			Severity D	1	1	1	1	4
			Collision					
			Insufficient Data					
		SI	Number	11	6	4	5	26
Outagamie County Regional Airport, Appleton (ATW)	AGL	RI	Number		2			2
			Rate		3.24			0.81
			Severity A					
			Severity B					
			Severity C		1			1
			Severity D		1			1
			Collision					
			Insufficient Data					
		SI	Number		1			1
Rock County Airport, Janesville (JVL)	AGL	RI	Number		1		1	2
			Rate		1.21		1.24	0.64
			Severity A					
			Severity B				1	1
			Severity C					
			Severity D		1			1
			Collision					
			Insufficient Data					
		SI	Number		2	1	1	4
Waukesha County Airport, Waukesha (UES)	AGL	RI	Number					
			Rate					
			Severity A					
			Severity B					
			Severity C					
			Severity D					
			Collision					
			Insufficient Data					
		SI	Number		1			1
Wittman Regional Airport, Oshkosh (OSH)	AGL	RI	Number			2	1	3
			Rate			1.92	0.97	0.73
			Severity A					
			Severity B				1	1
			Severity C					
			Severity D			2		2
			Collision					
			Insufficient Data					
		SI	Number	1	3		1	5

WYOMING

Airport Name, City (Airport Code)	Region	Type	Data	Year				Totals
				1998	1999	2000	2001	
Jackson Hole Airport, Jackson (JAC)	ANM	RI	Number					
			Rate					
			Severity A					
			Severity B					
			Severity C					
			Severity D					
			Collision					
			Insufficient Data					
		SI	Number				11	11
Natrona County International, Casper (CPR)	ANM	RI	Number					
			Rate					
			Severity A					
			Severity B					
			Severity C					
			Severity D					
			Collision					
			Insufficient Data					
		SI	Number			1		1

