ATA TESTIMONY

Aviation Safety

Statement of the
Air Transport Association of America, Inc.
before the
Aviation Subcommittee
of the
Senate Commerce Committee

April 10, 2008

AIR TRANSPORT ASSOCIATION

INTRODUCTION

The Air Transport Association of America, Inc. (ATA), the trade association of the principal U.S. passenger and cargo airlines,[1] appreciates the opportunity to submit these comments for the record on the state of aviation safety in the U.S. airline industry. ATA member airlines have a combined fleet of more than 4,400 airplanes and account for more than 90 percent of domestic passenger and cargo traffic carried annually by U.S. airlines.

ATA was founded in 1936 by fledgling U.S. airlines for two fundamental reasons: to improve and promote safety within the industry and to advocate for a legal and regulatory environment that would allow the U.S. commercial airline industry to grow and prosper. What was true then is true today: Safety is the foundation of this industry. U.S. airlines will thrive only if the industry *in fact* is safe and only if the public recognizes and *believes* it is safe. For this reason, our members take their safety responsibilities very seriously. "Safety first" is more than just a catchphrase – it is the core principle of this industry.

AIRLINES FUEL OUR NATION'S ECONOMY

The U.S. airline industry is not simply an important sector of our national economy; its services fuel our entire economy. Air transportation is an indispensable element of America's infrastructure and our nation's economic well-being. Individuals, businesses and communities depend on the national air transportation system. U.S. airlines transport more than 2.1 million passengers on a typical day and directly employ over one-half million persons to do so; they provide just-in-time cargo services; they are the backbone of the travel and tourism industry; and airlines link communities throughout our nation and to the world.

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[1] ABX Air; AirTran Airways; Alaska Airlines; American Airlines; ASTAR Air Cargo; Atlas Air; Continental Airlines; Delta Air Lines; Evergreen International Airlines; Federal Express Corp.; Hawaiian Airlines; JetBlue Airways; Midwest Airlines; Northwest Airlines; Southwest Airlines; United Airlines; UPS Airlines and US Airways.

Moreover, the airline industry is the foundation of the commercial aviation sector, which is comprised of airlines, airports, manufacturers and associated vendors. According to the Federal Aviation Administration (FAA), U.S. commercial aviation ultimately drives $1.1 trillion in U.S. economic activity and nearly 10 million U.S. jobs. By any measure, the U.S. airline industry is a valuable national asset and its continued economic health should be a matter of national concern.

SAFETY ABOVE ALL ELSE

The challenges facing the U.S. airline industry are widely known. Once lucrative international markets are softening, jet fuel prices are at an all-time high with no relief in sight and, by all accounts, the United States has entered an economic recession. Since Christmas Eve, five airlines have fallen victim to these challenging conditions. Yet despite entering this new era of volatility, airline safety has remained rock solid.

With Each Decade, U.S. Airline Safety Has Improved

Legend: Fatal Accidents — Scheduled Departures — Fatal Accident Trendline
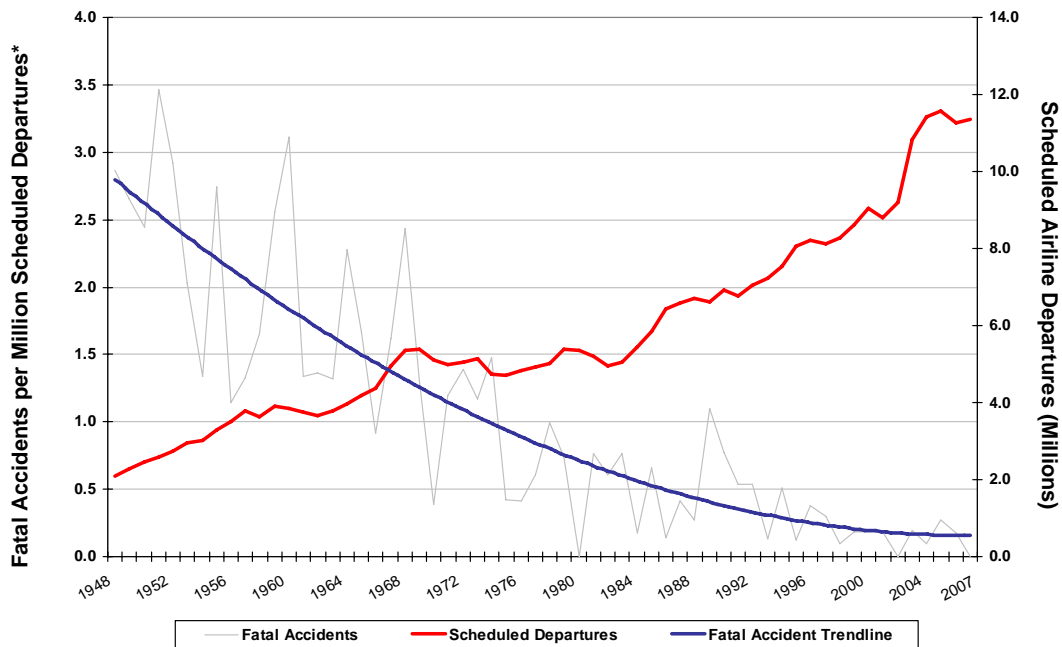
* Scheduled passenger and cargo operations of U.S. air carriers operating under 14 CFR 121; NTSB accident rates exclude incidents resulting from illegal acts
Source: National Transportation Safety Board (NTSB)

In 2007, Part 121 carriers transported 750 million passengers more than eight billion miles and logged 19 million flight hours on 11.4 million flights. According to the NTSB, 2007 saw no passenger fatalities or major accidents. The trend continues in 2008 and without question, scheduled air service is incredibly safe and working hard to be even safer.

A PERFORMANCE-BASED, DATA-DRIVEN APPROACH

While there are many reasons for the industry's excellent safety record, in our opinion two key developments stand out as having a significant positive impact. First, we have progressed from a prescriptive, conduct-based regulatory philosophy that focuses on what to do and how to do it, to one that looks to set performance standards first and the manner of achieving the desired performance second. This has shifted the focus to where it should be – on the safety objective, allowing carriers and the FAA to better define and implement appropriate procedures and requirements. Second, instead of being reactive and establishing safety goals based on the most recent accident or incident, the industry has learned to use the wealth of hard data accumulated by all stakeholders – FAA, NTSB, manufacturers and air carriers – to drive the safety agenda so that the most serious risks are identified and solutions developed in an orderly, efficient and effective manner. This data-driven, risk-assessment approach to safety has paid tremendous dividends already. It is the key to future safety improvements and continued accident prevention.

VOLUNTARY PROGRAMS ARE RAISING THE BAR

FAA and airline safety programs reflect and implement the regulatory philosophy and data-driven approach to safety previously described. In particular, the development of *voluntary* programs that encourage the reporting of operational data that would otherwise be lost has expanded the data set and enhanced the value of the analytical products. Working with the FAA and other stakeholders, U.S. airlines have developed flight operational quality-assurance programs – known as FOQA programs[2], aviation safety

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[2] FOQA programs involve the collection and analysis of data recorded in flight to improve the safety of flight operations, air traffic control procedures, and airport and aircraft design and maintenance.

action programs[3], voluntary disclosure programs[4] and line operations safety audit programs[5]. These programs have provided valuable data that have yielded insights into the precursors of accidents. FAA and the airlines have used this information to jointly identify and effectively mitigate risks that might otherwise have resulted in accidents. This view is shared not only by the airlines and FAA, but by independent safety experts worldwide including Flight Safety Foundation President and CEO William R. Voss. In a March 2008 statement, Mr. Voss states:

> "The commercial aviation system in the United States is the safest in the world, and both the FAA and industry should be justifiably proud of their record. As in any safety management system, there is always room for continuous improvement, but we cannot allow isolated breakdowns, which the FAA and industry are moving swiftly to address, to ruin partnership programs that have demonstrably contributed to aviation's sterling safety record. Nor can we afford to dry up the free flow of information that allows professionals to identify problems before they become safety threats. We cannot create a wall between the FAA and the airlines that will stop the flow of information and set aviation safety back 20 years."[6]

In fact, the DOT Inspector General recently testified as to the value of voluntary programs, stating that:

> "Such programs (Voluntary Disclosure Reporting Program and Aviation Safety Action Program), if properly

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[3] ASAP involves collection and analysis of safety concerns reported by employees.
[4] VDP allows a certificate holder to disclose a case of noncompliance without facing a civil penalty, provided the entity promptly and comprehensively corrects the noncompliance.
[5] LOSA involves the collection of safety data through in-flight observations of flight crews by specialists; Airlines use this information to assess the effectiveness of their training programs.
[6] Flight Safety Foundation Press Release dated March 3, 2008

implemented, can add value by identifying issues that might not otherwise come to light…We support the concept of self-disclosure programs and recognize the challenge they present to FAA – carefully balancing a collaborative relationship with effective oversight and appropriate enforcement actions."[7]

In addition to data-driven programs, aviation safety can be viewed as the cumulative outcome of numerous other activities by the FAA, NTSB, airlines and their employees, and airframe and engine manufacturers. The most obvious of these is the approval and surveillance by the FAA of air carrier training programs. Training programs for flight and cabin crews are critical to safe operations. Airlines employ a rigorous selection and training process that includes comprehensive initial and recurrent training. Most major airlines today utilize the Advanced Qualification Program, which enables each airline to tailor its curriculum to its unique operating environment and thereby maximize crew-member proficiency. We believe these and other similar programs will produce further improvements in aviation safety.

One of the most important programs affecting safety has been the joint industry-government Commercial Aviation Safety Team (CAST). CAST was established in 1997 to develop a comprehensive strategy to identify and prioritize risks based on past accidents and then develop solutions to reduce commercial aviation fatalities in the United States. Using a data-driven process, the CAST initiative identifies accident precursors and contributing factors to ensure that resources are applied to improve safety where needed most and where most effective. Over time, CAST has successfully addressed several types of accidents, such as controlled flight into terrain, approach and landing accidents, runway incursions, maintenance management, icing and uncontained engine failures. As of 2007, 39 different safety enhancements had been accomplished,

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[7] Statement of the Honorable Calvin L. Scovel III, Inspector General, U.S. Department of Transportation before the House Committee on Transportation and Infrastructure, April 3, 2008.

and 26 were underway. Through these 65 enhancements, the industry is approaching its goal of reducing the fatality risk by 80 percent.

But CAST doesn't stop there. While the original CAST approach looked back at accidents to better understand them and prevent future accidents, the next generation of CAST efforts will look forward to future risks. Compiling a wide range of safety indicators, CAST will identify risks to aviation safety before they result in accidents. The key to our success will be our ability to confidentially aggregate sensitive, industrywide safety data and mine it for trends. The Aviation Safety Information Analysis and Sharing (ASIAS) system[8] was launched in October 2007 to enable the exchange and analysis of safety data on a National level. We will continue to support the ASIAS system and look forward to the benefits it offers.

As noted, the CAST strategy is first and foremost data driven. It relies on comprehensive analysis of past accidents/incidents to identify accident precursors and then develop specific safety enhancements to address those precursors and related contributing factors. But the CAST process does not stop there. It is a fully integrated process that includes airlines, manufacturers, maintenance providers, commercial pilots, National Aeronautics and Space Administration (NASA) and other stakeholders, so that once the solutions have been identified, the affected parties implement the safety enhancements and track their implementation for effectiveness. Ultimately, the knowledge gained is used to continually improve not only the U.S. aviation system, but aviation safety worldwide. Canadian and European authorities also participate in CAST.

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[8] The Federal Aviation Administration (FAA) developed the Aviation Safety Information Analysis and Sharing (ASIAS) system to enable users to perform integrated queries across multiple databases, search an extensive warehouse of safety data, and display pertinent elements in an array of useful formats.

Current safety issues being addressed by our industry include runway safety, maintenance, fuel tank flammability, FAA oversight, air traffic controller staffing, operational errors and the safety of our employees.

Runway Safety[9] Several high-profile events over the last two years have drawn attention to the issue of runway incursions, but runway safety has always been a high priority for the industry. For decades, airlines have recognized the challenges they face on the airport surface and have invested significant resources to ensure the safety of their passengers and crews. Unfortunately, there is no silver bullet when it comes to eliminating runway incursions. The solution is a layered one that integrates technological advances, better signage and markings, robust flight crew and ATC procedures and a better understanding of human factors and performance. ADS-B, a fundamental component of NextGen, will ultimately enable better situational awareness for flight crews, allowing them to see all traffic around them whether in the air or on the ground. Combining this real-time, highly accurate positional information with moving map displays will yield real safety benefits. In the interim, we are pleased that FAA is deploying several new systems designed to reduce the risk of runway incursions at our busiest airports. Enhanced automated surveillance tools like AMASS and ASDE-X, runway status lights, perimeter taxiways, and EMAS, combined with heightened flight-crew awareness, streamlined taxi procedures and refined training, will help to reduce collision risk. We look forward to working with the FAA and airports to implement these new safety improvements.

In addition to runway incursions, the industry is focused intently on reducing the risk of runway excursions. ATA members, as well as pilot associations and the airport community, are actively participating in the recently formed Takeoff and Landing Distance Aviation Rulemaking Committee. The ARC will review current practices for

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[9] ATA testified on February 13, 2008, before the House Aviation Subcommittee on the issue of runway safety. Written testimony included details about the causes of runway incursions as well as specific actions taken and underway to reduce the risk of runway incursions. The testimony is available at www.airlines.org.

determining runway distance needed under various conditions and revise the regulatory guidance accordingly.

Maintenance The recent FAA announcement of a large civil penalty against Southwest Airlines and the subsequent audit of airworthiness directive compliance has attracted significant attention to the subject of airline maintenance. Despite the isolated shortcomings highlighted, it is important to note that the U.S. commercial airline fleet is maintained to impeccable standards, which are reflected in mechanical reliability performance. As shown in the chart below for Boeing models (and noting that Airbus models perform comparably), airline maintenance programs are yielding unprecedented levels of mechanical reliability which, in turn, contribute to overall safety performance.

Mechanical Reliability

U.S. Operators of Boeing Commercial Jet Transports[10]
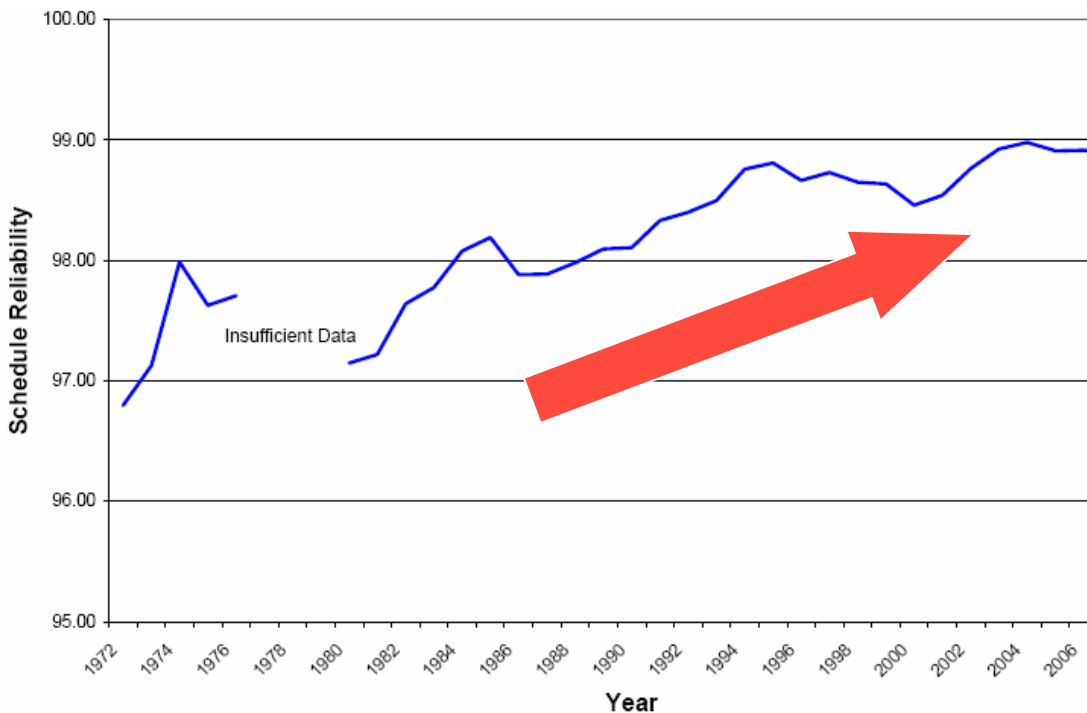
Source: Boeing

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[10] Data reflects technical delays greater than 15 minutes for Boeing 717, 737, 747, 757, 767, 777, MD11, MD80 and DC10 models.

Effective and efficient maintenance programs play a central role in making air travel safe. Maintenance is a 24-7 function that requires careful organization, tight control, diligent oversight and robust quality assurance. Airlines have developed comprehensive – although not perfect - oversight systems to ensure that aircraft are maintained properly in accordance with FAA regulations and manufacturers' standards. As we have seen recently, tracking the accomplishment of hundreds of thousands of individual maintenance tasks is challenging. Even though a recent FAA audit of AD compliance revealed a compliance rate better than 99 percent, airlines are committed to further enhancements that will further improve an already robust system.

Beyond the scope and frequency of individual maintenance tasks is the contentious issue of who actually performs maintenance tasks and where those tasks are performed. Contract maintenance continues to be scrutinized with critics alleging that the practice is unsafe, yet the industry's safety record tells a different story. Repair stations (third-party maintenance providers certificated under Part 145) have and will continue to play a vital role in air carrier operations and enable U.S. airlines to compete effectively worldwide.

Fuel Tank Flammability After the tragic loss of TWA Flight 800 in 1996, FAA initiated a multiyear research and development effort to address flammable vapors in fuel tanks. The effort produced a design that would reduce the amount of time that vapors are in a flammable state. The FAA proposed a regulation that would incorporate this new concept for commercial airliners, or other methods for preventing or mitigating fuel vapor explosions. The reduction concept does not diminish the need to eliminate ignition sources that could ignite the vapors. To prevent ignition sources, the FAA adopted sweeping regulations requiring improved design standards for fuel tank systems, reviews of existing systems with respect to the new standards, system modifications, specific operational procedures, and more exacting maintenance procedures. Industry continues to coordinate with the FAA and manufacturers as a stakeholder in developing these upgrades, which FAA has, since 1996, mandated through issuance of 170 airworthiness directives. Further, two ATA member airlines independently developed and gained FAA approval for a modification that may prove to be the single most progressive ignition-

prevention measure developed to date. For both economic and safety reasons, airlines have, when practical, reduced their use of auxiliary power units while on the ground – a measure that can provide relatively modest reductions in the amount of time that vapors are flammable. Our studies indicate that a retrofit of currently available flammability reduction systems cannot be justified under government guidelines for rulemaking, and that actions taken to prevent ignition sources exceed FAA standards and are the most effective approach to mitigating fuel tank explosion risk.

FAA Oversight FAA Inspectors work where 'the rubber meets the road' and are the central component of the FAA safety oversight system. They enforce regulations and standards concerning civil aviation safety, including the airworthiness of aircraft, the competence of personnel, and safety aspects of aviation facilities, equipment and procedures. The way in which they fulfill their mission continues to evolve with changes in oversight philosophy. FAA's risk-based Air Transport Oversight System (ATOS) leverages air carriers' internal oversight programs and advanced data-collection tools to create customized surveillance plans. Instead of searching randomly for deficiencies, FAA can efficiently identify and target potential areas of risk and work with the carrier to mitigate that risk. Make no mistake, ATOS does not preclude the need for FAA to conduct regular surveillance of air carrier operations. It is, however, one of many tools available to FAA and endorsed by the DOT Inspector General[11] to ensure that the operations of certificate holders conform to federal regulations.

While ATOS remains a valuable component of FAA's oversight effort, airlines do not rely on ATOS to keep them safe. Airlines are responsible for ensuring that they operate safely and cannot delegate that responsibility.

Air Traffic Controller Staffing Air traffic controllers make today's world-class aviation system work. They struggle to move growing numbers of aircraft through our nation's

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[11] "We have always supported the concept of risk-based oversight as the only way FAA will be able to effectively oversee a large and rapidly changing aviation industry." Statement of the Honorable Calvin L. Scovel III, Inspector General, U.S. Department of Transportation before the House Committee on Transportation and Infrastructure, April 3, 2008.

airspace without the benefits of state-of-the-art technologies. Forecasted demand from a broad range of users will exceed the capability of our system despite the best efforts of our skilled controller staff. Unfortunately, today's system is not scalable – adding more towers, TRACONs, or centers full of controllers will not work. We must provide today's controllers with tools that enable them to safely increase the number of aircraft that they manage at a given time.

Operational Errors Creating a safety culture that embraces voluntary reporting of safety information while effectively managing individual performance is challenging. The Air Traffic Safety Action Program (ATSAP), FAA's version of the ASAPs used so effectively within airlines, is a step in the right direction. We are optimistic that the ATSAP will generate valuable insight into the challenges air traffic controllers face and ultimately contribute to the safety and efficiency of the ATC system.

Operational errors have long been a contentious issue for controllers and FAA management. A minimum separation limit for aircraft, coupled with punishment for even slight violations provides a disincentive for controllers to optimally space aircraft. On the contrary, controllers are incentivized to add a buffer to ensure that the limit is not violated. This wastes valuable airspace and reduces airport throughput. We are encouraged that FAA is changing their approach to aircraft separation by adopting the concept of proximity events. The proximity event approach establishes a window within which the controller keeps the aircraft. This approach gives the controller an optimal separation target along with a buffer ahead and behind the aircraft to absorb fluctuations in airspeed. We believe that this approach ensures continued safe separation of aircraft, optimizes airspace usage and will reduce the risk of operational errors.

Employee Safety Airlines continuously strive to make the work environment safer and more comfortable for employees, regardless of whether that environment is on the ground or in the air. Flight crews as well as passengers benefit from advancements in technology, such as the hospital-grade HEPA air filters and ozone converters now installed on most long-range aircraft, which improve cabin air quality. Better data about cosmic radiation

provided by the FAA CARI-6 computer program allows flight crews to monitor their cumulative exposure to radiation and make changes where necessary to protect their health. A close partnership with the Centers for Disease Control and Prevention (CDC) has ensured that airlines can pass along to employees up-to-the-minute information on disease outbreaks and precautionary measures.

Ramp employees face a myriad of threats as they load, service and move aircraft. ATA members collect and analyze detailed data related to employee injuries, as well as aircraft and equipment damage. This data-based approach enables carriers to identify risks and take specific actions to mitigate those risks. ATA collaborates with other key stakeholders to lead industrywide changes, such as publishing safety guidelines/best practices, redesigning ground support equipment to make it more user friendly, incorporating advancements in personal-protection technologies, and establishing safety protocols for ramp personnel.

CONCLUSION

Notwithstanding the challenging environment in which airlines operate, the U.S. airline industry has experienced the safest period in its history. While hearings like this allow us to proudly reflect on this accomplishment, we understand that we cannot become complacent and rest on our accomplishments. Aviation safety demands constant vigilance, review and improvement. For this reason, we will continue to work with the FAA, the NTSB and the many parties with a stake in the continued safety of our industry. "Safety first" will continue to be our core principle.