

**Before the Committee on Commerce, Science, and Transportation  
United States Senate**

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**Challenges Facing the  
U.S. Department of  
Transportation,  
Fiscal Year 2008**

**Statement of  
The Honorable Calvin L. Scovel III  
Inspector General  
U.S. Department of Transportation**



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Chairman Inouye, Vice Chairman Stevens, and Members of the Committee:

We appreciate the opportunity to appear today to discuss the challenges facing the U.S. Department of Transportation (DOT) and the Nation's transportation system. I also want to express my appreciation for the strong support that this Committee has shown for the Office of Inspector General (OIG) and its mission.

As you know, we report annually on DOT's top management challenges as required by Congress and the Office of Management and Budget. We will issue our latest report on these issues in November.

This year, we will highlight nine challenges facing DOT across multiple modes of transportation, including issues related to funding and overseeing infrastructure projects; strengthening highway, rail, and air safety; reducing congestion; and modernizing the National Airspace System (see figure 1).

The Secretary and her team have been responsive to the challenges we have identified in the past. In fact, many of these are long-standing priorities that are at the heart of DOT's mission. The Department's Performance and Accountability Report also tracks progress in addressing the issues that we have identified and shows whether meaningful actions are underway to address them.

At the outset, I would like to briefly highlight several pressing transportation challenges that will require the Department to work with Congress and other stakeholders to identify policy solutions. They are:

**Figure 1. Fiscal Year 2008 Top Management Challenges**

- Continuing To Enhance Oversight To Ensure the Safety of an Aging Surface Transportation Infrastructure and Maximize the Return on Investments in Highway and Transit Infrastructure Projects
- Addressing Long- and Short-Term Challenges for Operating, Maintaining, and Modernizing the National Airspace System
- Developing a Plan To Address Highway and Transit Funding Issues in the Next Reauthorization
- Reducing Congestion on America's Transportation System
- Improving Oversight and Strengthening Enforcement of Surface Safety Programs
- Continuing To Make a Safe Aviation System Safer
- Strengthening the Protection of Information Technology Resources, Including the Critical Air Traffic Control System
- Managing Acquisition and Contract Operations More Effectively To Obtain Quality Goods and Services at Reasonable Prices
- Reforming Intercity Passenger Rail

- Agreeing on a long-term solution on how to finance the Federal Aviation Administration (FAA). Several alternatives have been proposed as to how to best fund FAA, including imposing user fees, adjusting the existing excise tax structure, and allowing the Agency to borrow for long-term capital investments. The Congress has established a short-term FAA financing measure that reflects the status quo, but a long-term reauthorization is needed.

- Achieving reform of intercity passenger rail. Significant progress on reform is unlikely without a new reauthorization of Amtrak. New reauthorization should address the critical questions of where intercity passenger rail makes sense, what types of service should be provided, how much it should cost, and who should pay for it. DOT must continue to work with Congress to improve the cost-effectiveness of Amtrak's operations to free up funds for Amtrak's capital program within the constrained Federal budget environment.
- Resolving the short- and long-term challenges related to the Highway Trust Fund. DOT and Congress must first decide how to address Highway Trust Fund revenue shortfalls that may require near-term reductions in Federal highway spending. The current surface transportation authorization expires at the end of 2009, and DOT and Congress will need to determine funding levels and sources of funding in light of the growing demand for Federal infrastructure investments and escalating construction costs.

Today, I would like to highlight the challenges facing DOT in the areas of strengthening aviation and surface safety and getting the most from our Federal transportation infrastructure dollars. We have assembled these issues along three cross-cutting areas:

- Strengthen oversight to ensure surface safety and make the most of the Federal investment in highway and transit projects.
- Enhance the safety of the Nation's aviation system.
- Reduce airline delays, meet anticipated demand for air travel, and address challenges for operating, maintaining, and modernizing the National Airspace System.

### **Strengthen Oversight To Ensure Surface Safety and Make the Most of the Federal Investment in Highway and Transit Projects**

Recent fatal highway incidents highlight the need for the Department to focus on ensuring the safety of the Nation's surface transportation infrastructure, particularly for aging tunnels and bridges needing costly rehabilitation, repair, or replacement. Additionally, the recent decision to permit some Mexican carriers to operate beyond the commercial zones along the border underscores the need for the Department to provide vigilant oversight to ensure the safety of the Nation's highways. The Department must also maximize the Federal transportation investment by ensuring that highway and transit projects are completed in a timely and cost-effective manner. This is critical at a time when infrastructure needs are increasing and the Nation's fiscal resources are struggling to meet growing demands.

Going forward, the Department will be challenged to balance the need to provide funding for projects to repair or replace aging infrastructures with funding for projects to reduce congestion with new capacity. Accordingly, we have identified the following areas that need continued management emphasis.

**Ensuring the safety of the Nation's tunnels:** In July 2006, a motorist was killed by falling ceiling panels in a tunnel of the Central/Artery Tunnel Project in Boston.<sup>1</sup> The safety problems that surfaced on this project call into question the oversight and quality control processes for constructing and maintaining the Nation's highway tunnels. Accordingly, the Federal Highway Administration (FHWA) should develop and implement a system to ensure that states inspect and report on tunnel conditions.

To begin addressing these problems, FHWA officials informed us that they will issue an advance notice of proposed rulemaking by December 2007 to seek input on the development of national tunnel inspection standards. FHWA should move aggressively on this rulemaking and establish rigorous inspection standards as soon as possible.

**Improving oversight of the Nation's structurally deficient bridges:** In August 2007, 13 people were killed when the Interstate 35W Bridge in Minneapolis, which spanned the Mississippi River, collapsed during the evening rush hour. The National Transportation Safety Board is investigating the cause of the collapse. This tragic incident underscores the importance of vigilant oversight for structurally deficient bridges (those that have major deterioration, cracks, or other deficiencies in their structural components). Nearly 72,500 bridges across the Nation have been designated as "structurally deficient." As we testified last month, Federal oversight of bridge inspections and funding for bridge rehabilitation and replacement constitute significant challenges for DOT.<sup>2</sup>

- Specifically, FHWA should sharpen its focus on developing a data-driven, risk-based approach to bridge oversight to better identify and target those structurally deficient bridges most in need of recalculation of load ratings and postings.
- Further, FHWA must identify and implement a process to determine the amount of Federal funds expended on structurally deficient bridges.

**Carrying out commitments to closely monitor Mexican motor carriers allowed to operate throughout the United States under the Department's demonstration project:** On September 6, 2007, after responding to Congress regarding our audit report issued that day, the Department initiated a 1-year demonstration project to

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<sup>1</sup> OIG Report Number MH-2007-063, "Initial Assessment of the Central Artery/Tunnel Project Stem To Stern Safety Review," August 16, 2007. OIG reports and testimonies are available on our website: [www.oig.dot.gov](http://www.oig.dot.gov).

<sup>2</sup> OIG Testimony Number CC-2007-095, "Federal Highway Administration's Oversight of Structurally Deficient Bridges," September 5, 2007.

permit up to 100 Mexican carriers to operate beyond the commercial zones along the United States-Mexico border.<sup>3</sup> Our report called on the Federal Motor Carrier Safety Administration (FMCSA) to address the need for coordinated, site-specific plans for checking trucks and drivers participating in the demonstration project each time they cross the border into the United States.

Assuming that future funding for the demonstration project is approved and the project continues, FMCSA will need to coordinate with the states and the U.S. Customs and Border Protection to carry out the plans for these checks. These checks must ensure that all Mexican drivers participating in the demonstration project are properly licensed and all trucks display a decal denoting a recent safety inspection.

**Reducing highway project costs by promoting the use of value engineering:** One way to more effectively use Federal highway funds is to lower project costs by increasing value engineering (VE) usage. VE is the systematic process of review and analysis of a project during the concept and design phases. A multi-disciplined team of persons independent of the project conducts the review. In our March 2007 report on FHWA's VE program, we found that states have missed opportunities to realize hundreds of millions of dollars in additional savings that could have been reprogrammed to other transportation projects.<sup>4</sup> FHWA should improve its VE program by strengthening oversight and disseminating best practices to states.

**Providing vigilant oversight of transit projects to control costs and schedules:** The Federal Transit Administration (FTA) has several massive infrastructure projects in various stages of design or construction. The Agency will be challenged to ensure that project sponsors keep these projects within budget and on schedule. Vigilant oversight of these projects will be particularly important as FTA simultaneously continues its oversight of a large portfolio of other transit projects across the country. For example, the magnitude of ongoing major surface transportation projects in New York City, with an estimated cost of over \$16 billion (this includes about \$8.48 billion in Federal funds) warrants close FTA oversight to ensure that project sponsors are exercising sound project and financial management.

## **Enhance the Safety of the Nation's Aviation System**

Safety is FAA's highest priority. For more than 5 years, FAA and the U.S. aviation industry have experienced one of the safest periods in history—even though the industry has undergone dramatic changes. However, the August 27, 2006, crash of Comair Flight 5191 (when pilots attempted to take off from the wrong runway) serves

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<sup>3</sup> OIG Report Number MH-2007-065, "Issues Pertaining to the Proposed NAFTA Cross-Border Trucking Demonstration Project," September 6, 2007.

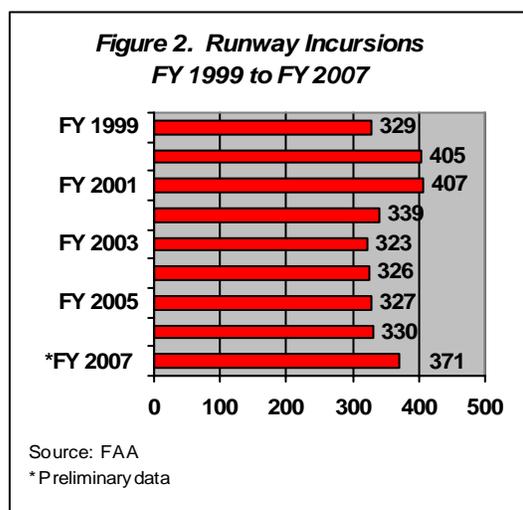
<sup>4</sup> OIG Report Number MH-2007-040, "Final Report on Value Engineering in FHWA's Federal-Aid Highway Program," March 28, 2007.

as a reminder that we must do more to make a safe system safer. We have identified the following areas that need sustained focus.

**Taking proactive actions to improve runway safety in light of recent serious incidents:** Reducing the risk of runway incursions (potential collisions on airport surfaces) is a critical safety issue that requires both proactive and ongoing efforts on the part of FAA, airlines, and airport operators. As shown in figure 2, the number of runway incursions decreased from a high of 407 in fiscal year (FY) 2001 to a low of 323 in FY 2003. However, the number of runway incursions has slowly increased since 2003, reaching a high of 371 in FY 2007—a 12-percent increase over FY 2006.

Serious runway incursions also continue to occur. For example, on July 19, 2007, at Chicago O’Hare International Airport, a collision was barely avoided when a United Airlines aircraft exited the wrong taxiway and taxied directly underneath the path of an arriving US Airways aircraft. Although the controller instructed the US Airways aircraft to go around, it over-flew the nose of the United aircraft by 50 to 70 feet.

These incidents underscore the need for proactive efforts that are both technological and programmatic in nature. A key technology for reducing runway incursions is the Airport Surface Detection Equipment Model-X (ASDE-X) program. FAA is developing ASDE-X to aid air traffic controllers in preventing runway incursions.



Keeping this important technology on track is critical because ASDE-X is currently at risk of not meeting its cost and schedule goals to commission all 35 systems for \$549.8 million by 2011.

When we testified before the Senate Appropriations Committee in May,<sup>5</sup> FAA had already expended about \$288 million (52 percent of the total ASDE-X planned funding) but had only deployed 8 of the 35 systems. Additionally, at the deployed sites, FAA had yet to implement the planned capability to alert controllers of potential collisions on intersecting runways and taxiways.

FAA also needs to take programmatic actions to reduce runway incursions. In May, we reported<sup>6</sup> that several national initiatives for promoting runway safety (undertaken

<sup>5</sup> OIG Testimony, CC-2007-054, “FAA’s FY 2008 Budget Request: Key Issues Facing the Agency,” May 10, 2007.

<sup>6</sup> OIG Report Number AV-2007-050, “Progress Has Been Made in Reducing Runway Incursions, but Recent Incidents Underscore the Need for Proactive Efforts,” May 24, 2007.

by FAA as early as 2000) have waned as the number of incidents declined and FAA met its goals for reducing runway incursions. Actions needed include:

- Improving information sharing among users to identify root causes of pilot deviations and communicate best practices to reduce runway incursions.
- Placing additional focus on controller human factors issues and training to improve individual, team, and facility performance.
- Assigning greater authority and accountability at the national level to ensure that runway safety remains a priority for all FAA lines of business.

FAA has begun addressing these concerns. For example, FAA met with airline and airport officials and agreed to a five-point, short-term plan for improving runway safety. The plan's major focus includes conducting safety reviews at airports where wrong runway departures and runway incursions are the greatest concern, accelerating the deployment of improved airport signage and markings at the top 75 airports ahead of the June 2008 mandated deadline, and reviewing cockpit procedures and air traffic clearance procedures. These efforts are clearly steps in the right direction, but their success will depend on ensuring that the current momentum continues and that runway safety remains a high priority for all users of the National Airspace System.

**Strengthening risk-based oversight systems for air carriers, external repair facilities, and aircraft manufacturers:** In the past 9 years, FAA has made important progress in developing risk-based approaches to safety oversight of air carriers; aircraft manufacturers; and, most recently, aircraft repair stations. According to recent data provided by FAA, it has implemented the Air Transportation Oversight System at 110 air carriers; however, 8 carriers still need to be converted to the new system. FAA plans to complete this transition by the end of calendar year 2007. In addition, the system requires the use of a team of inspectors with specialized expertise, not only in technical areas such as maintenance and electronics, but also in conducting risk assessments. Based on information provided to us, FAA has not developed a plan that details how this transition can be accomplished with the Agency's limited inspector resources. FAA has indicated that it is reconfiguring field offices to more efficiently use existing and newly hired inspector resources in conjunction with the transition, but has not fully addressed how it plans to ensure these inspectors have the skills needed.

FAA needs to refine its safety oversight of aircraft repair stations. For its new risk-based system to be effective, FAA must have a sound process for determining where critical aircraft maintenance is performed. FAA developed new inspector guidance and air carrier processes to address this problem, but these efforts still fall short of providing FAA with the information it needs. For example, FAA developed a process for air carriers to report the top 10 critical maintenance providers used each quarter,

but this reporting is voluntary; also, FAA inspectors are not required to validate the data that air carriers submit.

Further, FAA's new risk-based system does not include a process for overseeing critical repairs performed by non-certificated repair facilities. In 2005, we reported that over 1,400 non-certificated repair facilities were performing maintenance for U.S. air carriers and that more than 100 of these facilities were located in foreign countries.<sup>7</sup> FAA's efforts to improve its oversight of non-certificated repair facilities are still underway.

FAA will also need to modify its risk-based system for manufacturers so that inspectors can more effectively oversee manufacturing operations in today's complex aviation environment. The new system was not designed to address the increasingly prominent role that aircraft part and component suppliers now play in aviation. Rather than build the majority of their aircraft within their own manufacturing facilities using their own staff, manufacturers now have large sections of their aircraft built by domestic and foreign part suppliers. Therefore, FAA will also need to ensure that its risk-based system includes an assessment of the number of suppliers manufacturers now use.

**Maintaining a sufficient number of inspectors:** The rapidly changing aviation environment makes it imperative for FAA to maintain a sufficient number of inspectors in the right locations. FAA has approximately 4,000 inspectors located in offices throughout the United States and in other countries. These inspectors must oversee both domestic and foreign aspects of air carriers' maintenance and operations. FAA expects to hire approximately 287 aviation safety inspectors in FY 2008. FAA also expects to lose approximately 200 aviation safety inspectors during the same period, which would result in a net increase of 87 inspectors in FY 2008. FAA requested funding for these 87 inspectors in FY 2008; this would be an increase over FY 2007 staffing levels. FAA faces an additional challenge with approximately 48 percent of the inspector workforce eligible to retire by 2012.

FAA must ensure that its inspectors are properly trained. Using risk-based oversight systems is a foundational part of FAA's plan to meet future oversight challenges, but it requires that inspectors be skilled in risk analyses. Therefore, the Agency needs to improve its hiring and training efforts if it is to maintain a sufficient number of inspectors with the right skill set to oversee a dynamic aviation industry.

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<sup>7</sup> OIG Report Number AV-2005-062, "FAA Safety Oversight of an Air Carrier Industry in Transition," June 3, 2005.

## Reduce Airline Delays, Meet Anticipated Demand for Air Travel, and Address Challenges for Operating, Maintaining, and Modernizing the National Airspace System

The Department is pursuing a national strategy to reduce congestion across all modes of transportation. Congestion limits economic growth, wastes fuel, and costs billions of dollars in lost productivity each year. This will likely remain a prominent challenge for the Department for some time, particularly with regard to air travel. We are seeing record-breaking flight delays and cancellations, and forecasted air travel demands will continue to strain system capacity. This year's airline customer service issues drew national attention and underscored the need for the Department's continued focus in this critical area. While the Department has made progress on implementing a number of congestion-related initiatives this past year, the strategy was developed before this year's significant air travel problems. Reducing aviation delays and customer dissatisfaction with air travel is the most urgent congestion priority facing the Department. The Department and FAA also face several challenges in operating and modernizing the National Airspace System. This includes hiring and training a new air traffic controller workforce, reducing risks associated with the Next Generation Air Traffic Control System (NextGen), and ensuring that current modernization projects remain on track.

**Reducing delays and improving airline customer service while meeting the anticipated demand for air travel:** Reducing delays and meeting the anticipated demand for air travel are urgent issues. The National Airspace System is operating at the fringes of capacity, and record-breaking flight delays and cancellations are leading to long, on-board delays.

During the first 7 months of 2007, airlines' on-time performance was at the lowest percentage over the last decade, with nearly 28 percent of flights delayed, cancelled, or diverted. During the same period, over 54,000 scheduled flights, affecting nearly 3.7 million passengers, experienced tarmac delays of 1 to 5 hours or more (see table). This is an increase of nearly 42 percent as compared to the same period in 2006.

**Table. Number of Flights With Tarmac Delays of 1 to 5+ Hours  
January Through July of 2006 and 2007**

Time Period	2006	2007	% Change
1-2 Hrs.	33,438	47,558	42.23
2-3 Hrs.	3,781	5,213	37.87
3-4 Hrs.	710	1,025	44.37
4-5 Hrs.	120	189	57.50
5 or > Hrs.	27	44	62.96
<b>Total:</b>	<b>38,076</b>	<b>54,029</b>	<b>41.90</b>

Source: BTS data

Consumer complaints are also rising. DOT's Air Travel Consumer Reports disclosed that, for the first 7 months of 2007, complaints relating to flight problems (delays, cancellations, and missed connections) more than doubled, from 1,096 to 2,468, as compared to the same period in 2006.

The Department should take a more active role in overseeing customer service issues to ensure that airlines comply with their policies involving flight problems. Secretary Peters is committed to taking action, but there is no "silver bullet" solution to this problem. We believe that a cumulative mix of solutions would help the situation, including scheduling procedures, air traffic control modernization, and additional ground infrastructure. Other solutions, such as peak hour pricing, involve complex policy questions. It is also important to remember that the traveling public will likely face similar air travel problems in the spring and summer of 2008 and 2009 before they experience any real relief from capacity problems.

The airlines and airports must also do their part in the short term to effectively implement their customer service plans—including contingency plans—especially when their extraordinary flight disruptions cause significant delays, cancellations, and diversions.

**Hiring and training a new controller workforce:** Through 2016, FAA must hire and train over 15,000 new controllers as controllers hired after the 1981 strike retire. In December 2004, FAA developed a comprehensive workforce plan to address this challenge and issued the first in a series of annual reports to Congress. FAA issued its first update to the plan in June 2006 and the second in March 2007. In February, we issued the results of our review of FAA's progress in implementing its controller workforce plan.<sup>8</sup> Overall, we found that FAA continues to make progress in implementing a comprehensive staffing plan to address the surge in retirements. However, further progress is still needed in key areas. These include:

- Completing validation of accurate facility-level staffing standards. This is a critical component because FAA has over 300 air traffic facilities with significant differences in air traffic levels and complexity.
- Establishing baseline metrics to measure the effectiveness of controller productivity initiatives. FAA must ensure that reductions in staffing are a result of increased productivity and not simply fewer controllers controlling more traffic.
- Continuing efforts to reduce the time and costs associated with on-the-job training. This is the longest and most expensive portion of new controllers' training.

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<sup>8</sup> OIG Report Number AV-2007-032, "FAA Continues To Make Progress in Implementing Its Controller Workforce Plan, but Further Efforts Are Needed in Several Key Areas," February 9, 2007.

**Reducing cost, schedule, and technical risks with NextGen:** The development and execution of NextGen is the most complex, high-risk effort FAA has ever undertaken and will require multibillion-dollar investments from the Government and airspace users. While costs for developing and implementing NextGen remain uncertain, FAA expects to spend \$4.6 billion on NextGen initiatives between 2008 and 2012. The bulk of these funds will be spent on developmental efforts and projects such as the Automatic Dependent Surveillance-Broadcast Program—a satellite-based system that allows aircraft to broadcast their position to controllers and other properly equipped aircraft.

In our February 2007 report, we examined progress with FAA’s Joint Planning and Development Office,<sup>9</sup> which is responsible for developing a vision for NextGen, and highlighted needed actions. We recommended, among other things, that FAA develop a strategy for obtaining the necessary expertise to execute NextGen initiatives and review existing modernization projects to determine required adjustments.

FAA has begun addressing our concerns. FAA must also continue to address complex engineering and integration issues and develop an effective human factors program (for controllers and pilots) to ensure that anticipated changes can be safely introduced.

**Keeping existing modernization projects on track:** FAA’s major acquisitions have a long history of cost growth and schedule delays. For example, two acquisitions, the Wide Area Augmentation System (a satellite-based navigation system) and the Standard Terminal Automation Replacement System (new software and hardware for controllers that manage traffic in the vicinity of airports), have experienced cost growth of over \$4.2 billion since their inception. Problems with FAA acquisitions are the result of overly ambitious plans, changing requirements, complex software development, and poor contract oversight.

It will be important to keep existing modernization projects on track because about 30 of these are intended to serve as platforms for NextGen. This includes the \$2.1 billion En Route Automation Modernization project to replace hardware and software for facilities that manage high-altitude traffic. We note that the project is within budget and on schedule to be deployed to Salt Lake Center in 2008. While FAA has done a better job of managing acquisitions over the last several years, some programs are still at risk of further cost growth, schedule slips, or diminishing benefits. For example, the benefits (expected cost savings) of the FAA Telecommunications Infrastructure program (an effort to replace and consolidate all telecommunications into a single system) have eroded as costs have increased and the completion schedule has slipped. FAA needs to prevent schedule slips, cost growth,

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<sup>9</sup> OIG Report Number AV-2007-031, “Joint Planning and Development Office: Actions Needed To Reduce Risks With the Next Generation Air Transportation System,” February 12, 2007.

and performance shortfalls with ongoing projects that could delay NextGen capabilities needed to enhance capacity.

**Enhancing air traffic control system security and continuity planning:** The President has designated air traffic control systems as part of the Nation's critical infrastructure due to the important role that commercial aviation plays in fostering and sustaining the economy and ensuring citizens' safety and mobility. We previously reported deficiencies in protecting this critical infrastructure in two areas: (1) continuity planning to restore essential air traffic service in case of prolonged service disruptions at enroute centers and (2) review of operational air traffic control services security outside of the computer laboratory.

During FY 2007, under the Deputy Administrator's (now Acting Administrator) direction, FAA undertook initiatives and made modest progress in both areas, such as developing a concept of operations for business continuity planning. However, these are multi-year efforts, for which FAA still faces many uncertainties.

FAA also made progress during FY 2007 in reviewing air traffic control systems in the field by developing a methodology to select high-risk systems for testing. While this is a good initiative, we have identified two areas requiring further attention.

- First, there are about 100 systems used to direct air traffic, none of which were reported as having a high-risk impact. After this was brought to management's attention, the Department's Chief Information Officer, the FAA Acting Deputy Administrator, and the FAA Chief Information Officer all agreed to collaborate with the Air Traffic Organization to ensure that air traffic control systems are individually reviewed and categorized in accordance with Government standards and departmental policy, as a key priority for FY 2008.
- Second, FAA needs to focus on identifying and preventing unauthorized software changes made in air traffic control systems to meet local (field site) operational needs. As evidenced in our previous audit reports, such software changes could inadvertently create vulnerabilities to air traffic control operations.

Mr. Chairman, this concludes my statement. I would be happy to answer any questions that you or other Members of the Committee may have at this time.

The following pages contain textual versions of the graphs and charts found in this document. These pages were not in the original document but have been added here to accommodate assistive technology.

## **Challenges Facing the U.S. Department of Transportation, Fiscal Year 2008**

### **Section 508 Compliant Presentation**

**Figure 2. Runway Incursions Fiscal Year 1999 to Fiscal Year 2007**

- In fiscal year 1999, there were 329 runway incursions.
- In fiscal year 2000, there were 405 runway incursions.
- In fiscal year 2001, there were 407 runway incursions.
- In fiscal year 2002, there were 339 runway incursions.
- In fiscal year 2003, there were 323 runway incursions.
- In fiscal year 2004, there were 326 runway incursions.
- In fiscal year 2005, there were 327 runway incursions.
- In fiscal year 2006, there were 330 runway incursions.
- In fiscal year 2007, there were 371 runway incursions. (Note: Numbers for fiscal year 2007 are preliminary data only.)

Source: Federal Aviation Administration

**Table. Number of Flights With Long, On-Board Tarmac Delays of 1 to 5 Hours or Longer for January Through July of 2006 and 2007**

- In the first 7 months of 2006, there were 33,438 flights with on-board, tarmac delays of 1 to 2 hours. In the first 7 months of 2007, there were 47,558. This represents a 42.23 percent change.
- In the first 7 months of 2006, there were 3,781 flights with on-board, tarmac delays of 2 to 3 hours. In the first 7 months of 2007, there were 5,213. This represents a 37.87 percent change.
- In the first 7 months of 2006, there were 710 flights with on-board, tarmac delays of 3 to 4 hours. In the first 7 months of 2007, there were 1,025. This represents a 44.37 percent change.
- In the first 7 months of 2006, there were 120 flights with on-board, tarmac delays of 4 to 5 hours. In the first 7 months of 2007, there were 189. This represents a 57.50 percent change.
- In the first 7 months of 2006, there were 27 flights with on-board, tarmac delays of 5 hours or longer. In the first 7 months of 2007, there were 44. This represents a 62.96 percent change.

The total number of flights with long, on-board tarmac delays of 1 to 5 hours or longer for January through July of 2006 was 38,076. The total number of flights with long, on-board tarmac delays of 1 to 5 hours or longer for January through July of 2007 was 54,029. This represents a 41.90 percent increase.

Source: Bureau of Transportation Statistics data