GAO

Testimony

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NATIONAL AIRSPACE SYSTEM

FAA Reauthorization Issues are Critical to System Transformation and Operations

Statement of Gerald L. Dillingham, Ph.D.
Director, Physical Infrastructure Issues

GAO

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NATIONAL AIRSPACE SYSTEM

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Why GAO Did This Study

As requested, this statement discusses issues for the reauthorization of the Federal Aviation Administration (FAA). The aviation industry is in a period of economic turmoil and faces an uncertain future. At the same time, FAA is undertaking one of its most ambitious efforts ever to transform the nation's air traffic control system. The reauthorization of FAA provides an opportunity for Congress and FAA to focus on several key issues to improve the national airspace system.

This statement is based on recent and ongoing work and on discussions with selected senior FAA officials and representatives of the aviation industry. This work was conducted in accordance with generally accepted government auditing standards. Those standards require that GAO plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for findings and conclusions based on the audit objectives. GAO believes that the evidence obtained provides a reasonable basis for the findings and conclusions based on the audit objectives. A list of related GAO products is included at the end of this statement.

What GAO Recommends

GAO has made prior recommendations to address some of these issues. FAA has begun to address GAO's recommendations, although some have not yet been fully implemented.

To view the full product, including the scope and methodology, click on GAO-09-377T. For more information, contact Gerald L. Dillingham, Ph.D., at (202) 512-2834 or dillinghamg@gao.gov.

What GAO Found

This statement discusses six issues that are important in reauthorizing FAA programs. Many of these issues are deeply intertwined, and addressing one can affect the others. Balancing all of these issues will be a challenge, but is essential to FAA's ability to transform and operate the national airspace system safely and efficiently.

Ensuring the safe and efficient transformation to the Next Generation Air Transportation System (NextGen). FAA will need to accelerate the implementation of new and existing technologies, consider incentives for airlines to acquire those technologies, reconfigure facilities and enhance runways to take full advantage of NextGen's benefits, and sustain the current system while transitioning to the new one.

Strengthening oversight of aviation safety. Incomplete and inaccurate safety data jeopardize FAA's implementation of a new safety management approach. In addition, improvement of runway and ramp safety oversight is a key issue. For example, last year there were 25 incidents when collisions between aircraft on runways were narrowly avoided.

Reducing congestion and providing access to the national airspace system. FAA has taken steps to enhance capacity and reduce delays, such as redesigning airspace and placing caps on operations, but progress and improvements have been limited. Even as some areas experience more congestion, however, other areas of the country have seen service decline. This may increase demand for the Department of Transportation's subsidy program to provide a minimal level of scheduled air service for certain small communities.

Addressing aviation's impact on the environment. FAA, airports, and other stakeholders have worked to reduce noise, emissions, and other pollutants. Further efforts will be needed, particularly when trying to expand airport capacity.

Ensuring a sufficient, trained workforce. FAA faces a retiring air traffic controller workforce, the need for additional technical expertise to implement NextGen, and the need to improve relations with its labor unions.

Ensuring timely reauthorization of FAA programs. Short-term funding extensions and continuing resolutions could delay key capital projects. Timely reauthorization is critical to sustaining FAA's current programs and advancing NextGen.

FAA reviewed a draft of this statement and provided technical corrections, which GAO incorporated as appropriate.

United States Government Accountability Office

NextGen

Ensuring The Safe And Efficient Transformation To Nextgen

The Federal Aviation Administration (FAA) is the agency largely responsible for developing and implementing the policies and systems necessary for the transformation of the nation's current radar-based air traffic control (ATC) system into a more automated, aircraft-centered, satellite-based Next Generation Air Transportation System (NextGen) by 2025. This issue has several dimensions including the following:

Accelerating the implementation of available NextGen capabilities

According to some industry stakeholders, many of the technical capabilities fundamental to NextGen already exist but are not being implemented fast enough to have NextGen in place by 2025. FAA has entered into agreements with private sector firms to conduct NextGen technology demonstration projects; is working with industry and the local community on their plans to build an aviation research and technology park where FAA can work with industry on the research and development, integration, and testing of NextGen technologies; and established a NextGen mid-term task force to forge a consensus on operational improvements and planned benefits for 2013 through 2018. In addition, FAA recently responded to stakeholder concerns about the fragmentation of management responsibility for NextGen activities by reorganizing the FAA office that has primary responsibility for implementing NextGen.

Encouraging airlines to acquire NextGen equipment

Implementing NextGen depends not only on FAA, but also on aircraft operators, who must acquire the necessary equipment. For example, aircraft must be equipped with FAA-compatible technology to use Automatic Dependent Surveillance-Broadcast (ADS-B), a key satellite-based component of NextGen. The Air Transport Association expects the U.S. airline industry to pay more than $20 billion for NextGen equipment over the next 2 decades. Some airlines have purchased some of the necessary technology, but overall, airlines are waiting for FAA to specify requirements and address funding concerns. One objective of the new mid-term task force is to help operators identify the benefits of acquiring the equipment sooner rather than later.

Reconfiguring facilities and enhancing runways

NextGen will require a new configuration of ATC facilities and increased runway capacity. FAA has not developed a comprehensive reconfiguration plan, but intends to report on the cost implications of reconfiguration this year. Additionally, FAA has determined that even after planned improvements have been completed at 35 of the busiest airports, 14 airports—including some of the 35 busiest—will still need enhanced capacity by 2025. FAA has begun implementing the High-Density Terminal and Airport Operations initiative, which is intended to increase the capacity of existing runways at busy airports through changes in the requirements for aircraft separation and spacing, among other things.

Sustaining the current ATC system and maintaining facilities

During the transition to NextGen, FAA must continue to maintain existing systems. More and longer unscheduled outages of existing ATC equipment and ancillary support systems indicate more frequent system failures. FAA says that it considers user impact and resource efficiency when planning and

responding to equipment outages. In addition, FAA estimated a one-time cost to repair existing terminal facilities ranging from $250 million to $350 million.

What Is the Way Forward?

Align responsibilities to accelerate NextGen:

- After the recent reorganization of the FAA office responsible for implementing NextGen, many NextGen capabilities continue to span operational units both within and outside that office. The division of responsibility for NextGen efforts among them is not clear. Monitoring the effects of the reorganization would inform decisionmakers about the progress of NextGen.

- FAA has taken important steps, such as forming partnerships with industry, to accelerate the availability of NextGen capabilities. As we have stated in other reports, these types of partnerships are beneficial in accomplishing program objectives in a timely manner.

Incentivize purchase of new equipment:

- FAA will need to work with the stakeholders to explore a range of potential options available to provide incentives to aircraft operators to purchase equipment and to suppliers to develop that equipment. These options could include some combination of mandated deadlines, operational credits, or equipment investment credits that financially support equipment implementation for a limited initial set of aircraft operators.

Plan for future needs:

- The House reauthorization bill, H.R. 915, 111th Cong. (2009), provides a step forward in directing FAA to establish a working group to develop criteria and make recommendations for the realignment of services and facilities—considering safety, potential cost savings, and other criteria, in concert with stakeholders, including employee groups—to assist in the NextGen transition. Until FAA establishes this working group and they develop recommendations, the configurations needed for NextGen cannot be implemented and potential savings that could help offset the cost of NextGen will not be realized.

- Our research has shown that the full implementation of NextGen should be considered necessary, but not necessarily sufficient, to fully eliminate current and future delays and congestion. Planning infrastructure projects to increase capacity, such as building additional runways, can be a lengthy process, and would require significant advance planning.

Allocate resources to legacy systems:

- It will be critical for FAA to ensure the safety and efficiency of the legacy ATC systems, since they will be the core of the national airspace system for a number of years and, in some cases, will become part of NextGen. These circumstances will require the agency to continue to identify the necessary resources to implement a robust preventive and regular maintenance strategy and to support the skilled personnel that will be required to implement the strategy.

Safety

Strengthening Oversight Of Aviation Safety

The U.S. commercial aviation industry is among the safest in the world. However, when passenger airlines have accidents or serious incidents, regardless of their rarity, the consequences can be tragic, as a single accident can result in hundreds of deaths. In order to maintain the industry's current level of safety, it is important that FAA's oversight and monitoring provide early warnings of potential safety risks. Key aspects of strengthening FAA's oversight of aviation safety include (1) enhancing FAA's access to aviation safety data as it moves to a safety management system approach, (2) improving runway and ramp safety, and (3) improving safety in several industry sectors—air ambulances, air cargo, and general aviation.

Enhancing access to aviation safety data

FAA's ability to monitor and manage risk is limited by incomplete and inaccurate safety data. Such information is particularly important for FAA as it moves away from an oversight approach that focuses on labor-intensive safety inspections to a data-driven, risk-based safety management system approach. FAA receives important data through its partnership programs with industry, such as the Aviation Safety Action Program (ASAP), through which pilots and others voluntarily report safety-related incidents. These programs help identify and correct safety issues before they result in an accident. However, some major carriers have recently discontinued ASAP programs because of disagreements between the pilot union and management over what can be reported and what actions management can take against reporting pilots. Additionally, concerns have been raised that a legal decision in 2008 allowing ASAP reports to be disclosed to litigants in a court of law under certain circumstances may result in fewer reports. FAA is in the early stages of planning and developing the Aviation Safety Information Analysis and Sharing (ASIAS) initiative, the goal of which is to provide access to large volumes of federal and industry data, including ASAP. However, the agency has not established time frames or a roadmap for achieving its goal for ASIAS.

Improving runway and ramp safety

In fiscal year 2008, 25 serious runway incursions—when collisions between aircraft on runways were narrowly avoided—occurred, 9 of which involved commercial aircraft. In addition, since 2001, there have been at least 18 runway overruns—when an aircraft goes beyond the end of a runway—that resulted in 26 fatalities. FAA has taken recent actions to improve runway safety, including (1) conducting safety reviews at airports; (2) establishing the FAA-industry Runway Safety Council to analyze the root causes of serious incursions and recommend runway safety improvements; (3) testing a voluntary safety reporting program for air traffic controllers; and (4) issuing its National Runway Safety Plan in December 2008.

At least 29 fatal ramp accidents have occurred since 2001. However, efforts to improve airport ramp safety are hindered by a lack of complete accident data and standards for ground handling. FAA has generally taken an indirect role in overseeing ramp safety, and there are no federal or industrywide standards for ramp operations. Varied standards for ramp operations could lead to confusion about operating procedures and safety rules among ground handling companies that provide service to several airlines and increase the likelihood of accidents.

From 2002 through 2008 at least 74 **air ambulance** accidents occurred—the highest number since the 1980s—with at least 84 fatalities. Because FAA does not collect data on the number of air ambulance flights or flight hours, it is not known whether the increased number of accidents reflects an increased accident rate or growth in the industry. In response to recent air ambulance accidents, FAA has encouraged risk management training for air ambulance flight crews and has promoted the use of technology (e.g., night vision goggles and helicopter terrain awareness and warning systems).

Since 2002, 42 fatal **air cargo** accidents have occurred—all involving smaller air cargo carriers. For the most part, FAA safety efforts are the same for both passenger and cargo operators. Such efforts have likely enhanced cargo safety. For example, FAA's Capstone program, which began in 1999, focuses on reducing aviation accidents in Alaska, where the terrain and weather pose particular challenges to pilots, through the use of better technology on the aircraft. The number of cargo accidents in Alaska dropped from 20 in 1997 to 4 in 2008. In addition, the air cargo industry is advocating the use of safety management systems to improve safety.

A lack of national data on operations involving air ambulances, air cargo, and **general aviation** hinders FAA's ability to evaluate accident trends and manage risks in these sectors. For example, an average of 324 fatal general aviation accidents has occurred annually since 2000. Similar to data on air ambulance operators, FAA does not collect actual flight data for general aviation operators, which prevents a meaningful evaluation of accident trends.

What Is the Way Forward?

Work with carriers to improve data access:

- We agree with recommendations by the National Transportation Safety Board (NTSB) and others that FAA strongly encourage and assist air carriers in implementing ASAP. In addition, we are currently assessing FAA's use of data in safety oversight for the Chairman of this Subcommittee and others. We expect to issue a report and recommendations to FAA later this year.

Implement national runway safety plan and continue data collection:

- FAA needs to continue to implement recommendations that we made in November 2007 to enhance runway and ramp safety, including implementing its recently issued national runway safety plan and continuing to develop plans to collect and analyze data on runway overruns and excursions and ramp accidents. Such data would help FAA to understand the nature and scope of runway and ramp safety events and identify corrective actions.

Collect national safety data and establish an appropriate regulatory approach for some industry sectors:

- FAA lacks information to monitor the rate of accidents and determine the effectiveness of its oversight. FAA needs to continue to develop a process to collect such data for air ambulances, as we previously recommended.

- NTSB has recommended that FAA establish an appropriate regulatory approach for air ambulance operators, whose pilots operate under different standards depending on whether they are carrying patients. The standards differ significantly in two key areas—(1) weather and visibility minimums and (2) rest requirements for pilot and crew.

- We plan to issue a report to this Subcommittee on air cargo safety later this year that discusses what FAA and industry could do to further improve cargo safety.

Mobility

Reducing Congestion And Providing Access To The National Airspace System

Flight delays and cancellations at congested airports continue to plague the U.S. aviation system. Other airports are facing the loss of scheduled air service because of the airline industry's current contraction. Key factors hindering FAA's ability to provide efficient mobility through the national airspace system include (1) continued congestion at some large airports and (2) changes in the aviation industry that could affect service to small communities.

Addressing continued congestion

According to the Department of Transportation (DOT), almost one in four flights either arrived late or was canceled in 2008, and the average flight delay increased despite a 6 percent decline in the total number of operations through December 2008. Delays are particularly a problem at a few airports, such as those in the New York area, where less than 70 percent of flights arrive on time. Because the entire airspace system is highly interdependent, delays at one airport may lead to delays rippling across the system and throughout the day. Delays and cancellations are caused by a variety of factors, among them airline and aircraft problems, weather, security, and congestion in the national airspace system.

DOT and FAA initiated or completed a number of actions in 2008 intended to enhance system capacity, meet the demand for air travel, and reduce delays. For example:

- In the New York area, FAA implemented a number of operational and procedural initiatives to reduce congestion, including placing or maintaining caps on the number of hourly operations.

- Airspace redesign improvements have begun at airports in the New York area, Chicago, Houston, and other regions. These redesigns are complex and time-consuming, in part because of the environmental review process that is typically required.

- As a demand management tactic, DOT issued a policy statement amending the Airport Rates and Charges policy of 1996. One of the policy amendments allows operators of congested airports greater discretion in setting their landing fees.

- New runway projects in Chicago, Washington-Dulles, and Seattle were completed.

- As part of NextGen, FAA is working to provide aircraft with onboard, real-time weather information and to integrate weather information into decision support tools to help avoid weather-related delays.

Providing service to small communities

Continuing to provide mobility options and access to air service is becoming more difficult in the face of changes in the structure and economics of the aviation industry. The Essential Air Service (EAS) is a DOT subsidy program enacted to guarantee that certain small communities that otherwise would not receive air service will maintain a minimal level of scheduled air service.

- Airline consolidation and other factors have reduced the number of air carriers able and willing to participate in EAS. Today, 10 carriers are active in the EAS program—compared with 14 in 1998—and 4 of these serve more than three-quarters of the routes.

- Also, because air service operating costs are rising—including fuel, labor, and regulatory costs—the EAS carriers face increased competition for passengers with low-cost carriers at larger airports. In 2008, some communities in the EAS program temporarily lost service when three airlines ceased operating.

The EAS program has not been extensively revised since it was developed 30 years ago, despite changes in the structure and economics of the aviation industry.

What Is the Way Forward?

Reduce congestion through long-term investment or other actions:

- The growing air traffic congestion and delay problems faced in this country are the result of many factors, including airline practices, inadequate investment in airport and air traffic control infrastructure, and how the use of aviation infrastructure is priced. DOT and FAA should be commended for taking steps last year to reduce delays and cancellations, but as we predicted last summer, many of these initiatives were unlikely to substantially reduce congestion. Long-term investments in airport infrastructure and air traffic control, or other actions by Congress, DOT, or FAA could address the fundamental imbalance between underlying demand for, and supply of, airspace capacity.

Consider changes to EAS:

- The possible increase in the number of communities requiring subsidies to retain service and the associated costs raise concerns about the amount of funding that will be needed to continue to provide service in an environment of federal deficits. As a result, it is an appropriate time to conduct a comprehensive review of the EAS program to determine how it might be improved as well to consider additional options for providing federal assistance that may more efficiently facilitate small communities' connections to the transportation network, such as rail or bus.

Environment

Addressing Aviation's Impact On The Environment

Conducting airport capacity expansion projects requires compliance with laws, rules, and regulations intended to address environmental, public health, and noise concerns. Failure to meet these requirements can delay capacity expansion projects. Airports implementing expansion projects—such as new runways—must be prepared to address concerns about noise, emissions, and water quality.

Reducing effects of noise on communities

Community opposition to aviation-related noise, particularly from jet aircraft during takeoffs and landings, could constrain airport operations and the future growth of the national airspace system. Perceptions of aviation noise vary from one individual to another, and, as a result, even comparatively low levels of noise exposure can create opposition to airport expansion in communities surrounding airports. More stringent standards for aircraft noise levels—imposed through the Airport Noise and Capacity Act of 1990 and enabled by technological advancements—led to the retirement or modification of older, noisier jet aircraft. As a result, many fewer people are exposed to significant noise levels as defined by FAA. The agency assisted airlines in meeting the act's requirements to phase out or retrofit the noisiest aircraft, arguably one of the biggest accomplishments in reducing aviation noise. Local government decisions that allow communities to expand near airports may, however, erode some of the gains from these reductions in noise. FAA has issued guidance that discourages incompatible land uses, such as residences, schools, and hospitals, in areas with significant aviation noise. Communities, however, face strong development pressures, and research suggests that federal land-use guidelines have had mixed results in deterring residential development in these areas.

Controlling emissions

Although aviation-related activities produce a small portion of total U.S. air pollution, these pollutants are expected to increase with forecasted growth in the aviation sector. Aircraft are the primary source of aviation emissions, but airport service and passenger vehicles also produce emissions. Together, aircraft operations in the vicinity of the airport and other airport sources emit nitrogen oxides and volatile organic compounds, which lead to the formation of ground-level ozone (that is, smog), and other substances that contribute to local air pollution, as well as carbon dioxide and other greenhouse gases that rise into the atmosphere and contribute to climate change. FAA's Voluntary Airport Low Emissions Program allows the use of federal funding for airport equipment that reduces emissions, such as the purchase of electric ground support equipment. Airports in areas that do not meet air quality standards set by the Environmental Protection Agency under the Clean Air Act may need to mitigate emissions in order to gain approval for development projects. In addition, as communities gain more awareness of the health and environmental effects of aviation emissions, opposition to airport expansion projects, which has thus far focused mainly on aviation noise, could broaden to include emissions.

Maintaining water quality

Airports can potentially affect water quality through activities such as deicing, as well as aircraft and vehicle fueling and maintenance. Chemicals from such activities may contaminate groundwater and surface water supplies if allowed to flow from airport facilities to storm drains or waterways. Airports involved

in runway expansion projects, particularly those located near wetlands and other bodies of water, may need to take expensive measures to contain or treat runoff. Fuel spills are another concern: leaks, improper connections, and improperly monitored storage tanks can lead to fuel spills, which may contaminate soil or groundwater if not contained or diverted to an established treatment system.

| Addressing interrelated environmental issues | FAA has taken similar approaches in addressing a number of these issues, particularly when those issues are interrelated. FAA is addressing environmental concerns through grant programs, research and development efforts, and technical assistance. |

- FAA has contributed to a number of federal research and development efforts that have increased the understanding of aviation's environmental effects, improved available options for addressing those effects, and achieved significant reductions in aircraft noise and emissions over the last 30 years.

- FAA provides funding and technical assistance for many airport environmental activities. As a result, airports have instituted residential sound insulation programs, implemented policies to reduce emissions, and constructed stormwater retention basins, among other things.

- FAA and airports have begun implementing elements of NextGen that will use new technology to guide more efficient flight paths, reducing aircraft noise and emissions.

What Is the Way Forward?

Contribute to further advances:

- FAA's plans to provide funding to accelerate the maturation and implementation of aviation development ideas could contribute to environmental improvements.

- FAA's plans for continued investment in research and development could help balance trade-offs among environmental issues, such as increased emissions from quieter aircraft engines.

- FAA's plans to foster the development of alternative fuels and to assess the health and welfare risks of aviation noise and emissions could address environmental concerns.

- Implementing NextGen in a timely manner could allow for full realization of capabilities to reduce emissions and improve fuel-efficient aircraft routing to achieve operational improvements in the near term, while awaiting results from longer-term research and development efforts.

We expect to issue reports to this Subcommittee later this year on efforts to reduce aviation's contribution to greenhouse gas emissions and on airports' efforts to address environmental concerns.

What Is the Issue?

As it deals with the other reauthorization issues identified in this statement, FAA also faces workforce issues. To ensure that it has a sufficient number of personnel trained to handle the tasks associated with managing the national airspace system safely and efficiently, FAA will have to (1) hire and train thousands of new air traffic controllers while ensuring that aircraft continue to fly safely, 24 hours a day, 7 days a week; (2) ensure that its workforce has the right mix of technical skills to implement NextGen; and (3) work to improve relations with its labor unions.

| Replacing the retiring controller workforce | FAA projects that about 72 percent of its controller workforce will become eligible for retirement by 2016, and between 2008 and 2017 it will lose approximately 15,000 controllers through retirement and other reasons. To replace them, FAA has already begun hiring new controllers and plans to hire almost 17,000 additional controllers by fiscal year 2017. |

FAA is on track with its hiring and has instituted training improvements to reduce the amount of time controllers remain in trainee status. However, the pace of hiring and training has changed some of FAA's training procedures. More often than in the past, FAA sends developmental controllers directly to busy facilities to begin their on-the-job training. In the past, developmental controllers would normally go to less-busy facilities for their first assignment, where they would gain experience before moving up to a busier facility. FAA must also carefully manage the flow of developmental controllers to each facility so that their numbers do not overwhelm the facility's capacity to train them. Furthermore, with fewer fully certified controllers and greater on-the-job training demands, controllers may work more overtime hours. Overtime can lead to fatigue, and many controllers routinely work overtime, raising safety concerns.

FAA's Projected Air Traffic Controller Losses and Hiring, Fiscal Years 2008-2017

Source: FAA.
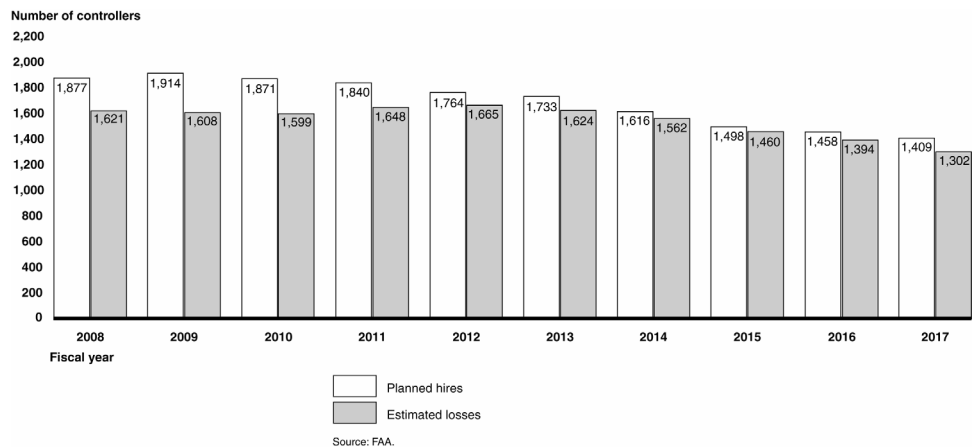
| Ensuring technical expertise for implementing NextGen | To manage the implementation of NextGen, FAA will need staff with technical skills, such as systems engineering and contract management expertise. Because of the scope and complexity of the NextGen effort, the agency may not currently have the in-house expertise to manage the transition to NextGen without assistance. FAA contracted with the National Academy of Public Administration (NAPA) to determine the mix of positions—such as contract specialists, program managers, engineers, scientists, researchers, and financial specialists—and strategies that would provide the necessary |

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expertise for NextGen. FAA estimates that it will need to hire about 350 additional staff over the next 2 years to obtain the needed skills.

Improving labor-management relations	FAA is involved in extended contract disputes with two of its largest labor unions. The air traffic controllers are operating under a contract that resulted from an impasse, while bargaining units from the safety inspectors' union are operating under an old contract because no agreement was reached on a new one more than 5 years ago. According to senior union representatives, these situations contribute to low morale. As a result, the strained relationship between FAA management and the unions could slow the implementation of NextGen.

What Is the Way Forward?

Hire and integrate:

- As FAA continues to hire additional controllers, it needs to integrate new staff in a timely fashion so as not to delay the integration of new technologies and the transformation of the national airspace system. We are comparing FAA's human capital structures and processes with those of leading organizations and expect to issue a report to this Subcommittee later this year.

Provide training:

- FAA has to provide technical training for all of its controllers on the new equipment necessary for NextGen while maintaining skills on existing equipment.

- FAA will need to be vigilant to ensure that sending developmental controllers directly to busy facilities neither impairs safety nor results in increased failures that might not have occurred if they had been sent to less-busy facilities.

Work with unions:

- While some progress has been made in working with labor unions, it should remain a priority for the involved parties to follow through and reach agreement.

Timely Reauthorization	Ensuring Timely Reauthorization Of FAA Programs

FAA's authorizing legislation expired at the end of fiscal year 2007, and for the past 17 months, the agency has been operating under a series of funding extensions and continuing resolutions. In addition, the excise taxes that fund the Airport and Airway Trust Fund (Trust Fund) also expired at the end of fiscal year 2007 but were extended as a part of 2008 continuing resolutions. Several key issues directly affect future funding and FAA's ability to move forward with plans to address the needs of the national airspace system.

- *Dealing with the effects of temporary funding measures:* The short-term funding extensions and continuing resolutions could lead to delays in key capital projects.

  - According to FAA, the agency requires funding to support NextGen near-term decision points and associated pre-implementation activities, which will initiate new acquisitions programs for the midterm (2013 through 2018). Delays in NextGen funding could delay these critical activities and push the achievement of operational capabilities and operational improvements for the national airspace system beyond the midterm, according to FAA.

  - Delays in reauthorizing FAA programs have also hampered the planning and development of needed airport infrastructure projects funded through the Airport Improvement Program (AIP), according to FAA. Under short-term extensions of AIP or partial-year continuing resolutions, an airport's entitlement funding is prorated. Because of the uncertainty associated with future AIP funding levels, airport sponsors are less willing to commit partial-year entitlements to projects, instead electing to defer projects to subsequent years. According to FAA, approximately $209 million of fiscal year 2009 airport entitlements remained unused as of the end of January. Delays could lead to increases in construction costs.

- *Declining revenues in the Trust Fund:* Trust Fund revenues have been less than previously forecasted, and forecasts of future revenues have declined. For the short run, Congress faces the likelihood of lower-than-expected excise tax revenues, mainly resulting from the downturn in the economy, and the impact of this shortfall on the availability of Trust Fund revenues to fund FAA programs this year and next. In the longer run, revenues may be lower than projected several years ago, meaning that there may be less money available for capital projects than had been previously anticipated without a larger contribution to FAA's overall funding from the general fund. The House reauthorization bill attempts to address the concern that the Trust Fund balance might no longer be large enough to ensure that sufficient Trust Fund revenues are available to FAA even when actual revenues fall short of forecasted revenues. It proposes to base expenditures from the Trust Fund on 95 percent, rather than 100 percent, of estimated Trust Fund revenues. This would reduce the likelihood of running the Trust Fund balance to zero, an event that would create implications for Congress in funding FAA programs.

- *Lack of a permanent administrator:* The agency is facing a critical point in its transformation of the national airspace system, with many crucial decision points in the next 2 fiscal years. A permanent administrator could help guide FAA through these times.

Key programs discussed in this testimony, such as for NextGen and safety, are adversely affected by breaks in funding. The House reauthorization bill proposes actions to address many of the issues raised in this statement. To its credit, FAA has also undertaken a number of initiatives to address the issues in the meantime. However, timely reauthorization—that takes into account the issues addressed here—is critical to ensuring the continuity of FAA's current programs and the agency's continuing progress toward NextGen.

Appendix

Selected GAO Products

Federal Aviation Administration: Challenges Facing the Agency in Fiscal Year 2009 and Beyond. GAO-08-460T. Washington, D.C.: February 7, 2008.

Federal Aviation Administration: Challenges Facing the Agency in Fiscal Year 2008 and Beyond. GAO-07-490T. Washington, D.C.: February 14, 2007.

NextGen

Next Generation Air Transportation System: Status of Systems Acquisition and the Transition to the Next Generation Air Transportation System. GAO-08-1078. Washington, D.C.: September 11, 2008.

Next Generation Air Transportation System: Status of the Transition to the Future Air Traffic Control System. GAO-07-784T. Washington, D.C.: May 9, 2007.

Joint Planning and Development Office: Progress and Key Issues in Planning the Transition to the Next Generation Air Transportation System. GAO-07-693T. Washington, D.C.: March 29, 2007.

Federal Aviation Administration: Key Issues in Ensuring the Efficient Development and Safe Operation of the Next Generation Air Transportation System. GAO-07-636T. Washington, D.C.: March 22, 2007.

Safety

Aviation Safety: FAA Has Increased Efforts to Address Runway Incursions. GAO-08-1169T. Washington, D.C.: September 25, 2008.

Runway Safety: Progress on Reducing Runway Incursions Impeded by Leadership, Technology, and Other Challenges. GAO-08-481T. Washington, D.C.: February 13, 2008.

Aviation Runway and Ramp Safety: Sustained Efforts to Address Leadership, Technology, and Other Challenges Needed to Reduce Accidents and Incidents. GAO-08-29. Washington, D.C.: November 20, 2007.

Aviation Safety: Improved Data Collection Needed for Effective Oversight of Air Ambulance Industry. GAO-07-353. Washington, D.C.: February 21, 2007.

Mobility

Commercial Aviation: Impact of Airline Crew Scheduling on Delays and Cancellations of Commercial Flights. GAO-08-1041R. Washington, D.C.: September 17, 2008.

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Aviation and the Environment: NextGen and Research and Development Are Keys to Reducing Emissions and Their Impact on Health and Climate. GAO-08-706T. Washington, D.C.: May 6, 2008.

Aviation and the Environment: Impact of Aviation Noise on Communities Presents Challenges for Airport Operations and Future Growth of the National Airspace System. GAO-08-216T. Washington, D.C.: October 24, 2007.

Human Capital

Federal Aviation Administration: Efforts to Hire, Staff, and Train Air Traffic Controllers Are Generally on Track, but Challenges Remain. GAO-08-908T. Washington, D.C.: June 11, 2008.

Reauthorization

Aviation Finance: Observations on the Current FAA Funding Structure's Support for Aviation Activities, Issues Affecting Future Costs, and Proposed Funding Changes. GAO-07-1163T. Washington, D.C.: August 1, 2007.

Federal Aviation Administration: Observations on Selected Changes to FAA's Funding and Budget Structure in the Administration's Reauthorization Proposal. GAO-07-625T. Washington, D.C.: March 21, 2007.