STATEMENT OF MICHAEL P. HUERTA, ADMINISTRATOR, FEDERAL AVIATION ADMINISTRATION, BEFORE THE COMMITTEE ON TRANSPORTATION AND INFRASTRUCTURE, SUBCOMMITTEE ON AVIATION, ON CAUSES OF DELAYS TO FAA'S NEXTGEN PROGRAM, JULY 17, 2013.

Chairman LoBiondo, Congressman Larsen, Members of the Subcommittee:

Thank you for the opportunity to testify today before the subcommittee on the progress the Federal Aviation Administration (FAA) has made on the Next Generation Air Transportation System (NextGen). NextGen is the largest single aviation infrastructure project in history. This fundamental transition allows us to best utilize new and existing technology, including satellite-based and digital technology, to ensure that we meet the future demands for safe and efficient air travel.

As demand for our nation's increasingly congested airspace continues to grow, NextGen improvements are enabling the FAA to guide and track aircraft more precisely on more direct routes. This allows us to cut flight miles and reduce fuel burn, making air travel more convenient, predictable, and environmentally friendly.

Our goal as an agency is to manage our national airspace in the safest and most efficient way possible, and NextGen plays a central role in this effort. We are delivering concrete benefits to users of the national airspace through NextGen. As of this very moment, air carriers that take advantage of precision routing get into and out of airports more quickly and efficiently, which reduces fuel use, saves money, and decreases aircraft exhaust emissions. Airlines flying into Dulles International and Reagan National have started using NextGen procedures and we estimate they will save $2.3 million in fuel per year and cut greenhouse gas emissions by 7,300

metric tons. In Atlanta, the precision of NextGen navigation means we can safely allow jets to take off on headings that are slightly closer together. This small change has resulted in an increase of 8 to 12 planes departing per hour, saving valuable time. It is also better for the environment because those jets spend less time on the ground with their engines running. This expected initial benefit of the new procedure is $20 million in Atlanta this year alone. We expect to bring this type of efficiency to other major airports as well.

General aviation pilots and other small-aircraft operators are also seeing benefits under NextGen, which allows them greater access to more airports nationwide, particularly in poor weather conditions, thanks to enhanced satellite navigation capabilities. Air traffic controllers now have a wider array of tools at their disposal to help them make the critical decisions necessary to bring about more efficiency in the world's busiest airspace system. The flying public is enjoying shorter flight times and fewer delays. We are realizing these benefits because of NextGen.

Michael Whitaker, who assumed the role of Deputy Administrator on June 3, 2013, will serve as Chief NextGen Officer. This is a role of great importance. Effectively leading the agency through the next phases of NextGen implementation will require working with many organizational components within the FAA, collaborating with industry and labor, and understanding the complexities of the NextGen program. Mr. Whitaker is a seasoned aviation executive with extensive business, regulatory, legal, and international experience. He is well-versed in general aviation, as well as commercial aviation, and has led collaborative efforts and joint ventures to promote aviation safety and enhance performance and profitability. In his

career he has fostered alliances and improved corporate governance. I am confident that NextGen will flourish under his leadership.

NextGen would not be as successful as it is without collaboration and investment by a wide range of participants and the support of Congress. We are listening to the aviation community, including operators, bargaining unit representatives, and international colleagues, and we have adjusted our plans accordingly to create benefits for the maximum number of stakeholders. We carefully consider the audits, reports, and recommendations from the DOT Office of the Inspector General and the Government Accountability Office when evaluating our programs and we consistently review our own progress to measure success and identify areas where we can improve.

Collaboration is Key to the Success of NextGen

The FAA has a long history of engaging with industry to develop consensus around policy, programs, and regulatory decisions. NextGen is arguably the best example of that collaboration. We have worked closely with industry partners, built consensus, and incorporated important recommendations from industry in our NextGen planning. We are working with our partners through the NextGen Advisory Committee, NextGen Institute, RTCA, and the Joint Planning and Development Office.

Our primary vehicle for industry collaboration is the NextGen Advisory Committee (NAC). Its advisory role includes facilitating industry participation in NextGen, providing recommendations, and reviewing performance objectives. The NAC's involvement is intended to

ensure a positive business case for those who must invest in NextGen, and to provide a venue for tracking progress and sustaining joint commitments.

We believe the NAC has been successful in providing guidance and input into the current plans for the development and implementation of NextGen. For example, we consulted extensively with the NAC to establish metrics that focus on post-implementation operations at locations where the agency has deployed NextGen systems and capabilities. They are reported on the FAA's new NextGen Performance Snapshots website.[1]

One of our most successful collaborations with the NAC was on a recommendation involving city pairs. The NAC was instrumental in identifying sets of city pairs that can help measure the progress made by NextGen technologies once implemented. Specifically, we track fuel burn, average distance flown and actual versus filed flight times between key city pairs. In selecting city pairs, the NAC and the FAA took into consideration airports that were slated to receive various NextGen improvements, for example new PBN procedures or new surface management capabilities. These city pairs reflect a variety of important factors for the airline industry, such as passenger volume and traffic mix, among others.

We have, however, faced some challenges to achieving consensus via the NAC. For example, in order to evaluate fuel efficiency gains under NextGen in accordance with Section 214 of the reauthorization, we discussed fuel burn with our industry partners participating in the NAC. Some of our industry partners expressed reluctance about providing fuel burn data out of a concern that releasing this information would provide proprietary data to the public and their

[1] NextGen Performance Snapshots are available online at http://www.faa.gov/nextgen/snapshots/

competitors. The activity underscored for us and for our partners on the NAC the true complexities that we deal with in trying to gather the information necessary to implement this interdependent set of initiatives in an airspace that operates 24 hours a day, seven days a week. Furthermore, this challenges our ability to establish a reliable baseline measure from which improvements can be assessed over time. While collaboration is vital, true consensus among all stakeholders isn't always possible. To gather the necessary information, the FAA and the NAC are moving forward in partnership with a number of operators who are interested in sharing fuel use data.

Despite these challenges, continued collaboration is a critical component of NextGen development. Even if it takes more time, developments that take into account the needs and contributions of industry will allow us to better serve all those who use the national airspace. Through NextGen, we are transforming an entire system, even as it continues to operate. We must continuously evaluate our progress and collaborate with industry to ensure that operations run smoothly as we proceed. We are building this system one step at a time and our partnerships with industry are vital to its success.

Our partnerships with labor are just as crucial. The FAA has learned the lesson that you must involve the system operators on the front end, and the earlier the better, because they are the subject matter experts on our airspace and air traffic management system. The success of NextGen depends on the collaboration of talented experts working together to build it, which includes engineers, scientists, mathematicians, technicians, and air traffic controllers.

Because of our relationship with labor, these subject matter experts are an integral part of our major NextGen initiatives. To date, we have more than 600 NATCA representatives, and 90 front-line managers, participating in 90 discrete events. The controllers are not just collaborating, they are shaping NextGen. They are at the heart of what we are doing, and they are embracing NextGen implementation.

While we have a well-constructed enterprise architecture and implementation plan for NextGen, it is critical that we maintain a level of flexibility, scalability, and responsiveness that allows us to evaluate each stage of implementation and adjust our plans to accommodate new technology and economic changes. The FAA employs an integrated approach to track NextGen program costs, schedules, and performance milestones. This includes a framework of several complementary tools that, together, address these issues and detail the planning, development, and delivery of NextGen. The FAA continues to work on an Integrated Master-Schedule (IMS) to strengthen its enterprise-level management tool. This tool is being designed to show how changes in programs' schedules will impact the delivery of NextGen capabilities. The IMS will draw upon the information contained in the roadmaps of the NAS Enterprise Architecture and captures key program activity and milestones for operational improvements. The NAS enterprise architecture is a strategic planning tool that depicts the evolution of the NAS architecture over time. The NAS enterprise architecture is a set of working documents that provide significant detailed planning information to implementing offices. The FAA publishes an executive level overview of the agency's progress annually in the NextGen Implementation Plan.

The 2013 NextGen Implementation Plan

I am proud to announce the recent release of the 2013 NextGen Implementation Plan. The plan provides an updated roadmap of the FAA's ongoing transition to NextGen. It also provides a wealth of information on the current state of NextGen programs.[2]

We have been transparent, from the beginning, about what we intend to accomplish with NextGen. The Implementation Plan describes what success looks like in our operational vision. We are publicly holding ourselves accountable, and we are proud of the progress we have made.

Successes and Benefits of NextGen

We report regularly on our success in achieving the milestones established in our Implementation Plans.

We have met a majority of the milestones identified in the previous edition of the Plan, having completed 82 percent of the site-specific implementations we promised in 2012. We are on track and fully committed to these programs and the capabilities they bring. That's on top of meeting an equally high percentage of the 340 implementation and work activity commitments we made in the 2009-11 editions of the Plan. We are delivering NextGen on time and on target. We continue to make consistent progress in the following key areas:

[2] In accordance with the Administration's directive to reduce printing costs, and capitalize on advances in mobile technology, the Plan is as an electronic document available for download on the FAA's NextGen website in e-book and PDF formats, www.faa.gov/nextgen .

- Automatic Dependent Surveillance–Broadcast (ADS-B) – To date, the FAA had installed more than 500 ADS-B ground stations, 445 of which were operational. This system changes the nation's air traffic control system from one that relies on radar technology to one that uses global satellites, which can provide more precise location data. ADS-B ground stations provide traffic and weather information to more than 1,400 properly equipped aircraft and supporting air traffic control separation services at eight En Route and 37 Terminal facilities.

    - United Parcel Service (UPS) in Louisville has been an early adopter of ADS-B technology; they have equipped aircraft with ADS-B and have seen both increased efficiency and lower fuel burn in their operations.

    - JetBlue has equipped 35 aircraft with ADS-B Out avionics. In June 2013, the airline was re-routed across the Gulf of Mexico to avoid weather-related delays. This shaved off about 100 miles from the flight's initial path and resulted in hundreds of gallons of fuel savings.

    - Helicopters equipped with ADS-B have been able to increase flight hours during periods of low visibility from 1,500 to almost 20,000 in the Gulf of Mexico.

    - To date with ADS-B, more than 500 operational radios are providing traffic and weather information to more than 1,400 properly equipped aircraft on the East Coast, West Coast, and in Alaska, with supporting air traffic control separation services at 8 En Route and 37 terminal facilities and supporting surface advisory services at 24 airports.

- The optimization of airspace and procedures in the Metroplex program has seven active teams in various phases of development. Additional sites were expected to complete their design and implementation in 2013, but may be delayed due to budget sequestration.

- Equipage Incentives – The FAA is considering operational and financial incentives to influence owners and operators to equip their aircraft to use NextGen capabilities and gain NextGen benefits and has engaged in a number of public meetings to engage industry and gain their input. Under the program name AirPASS (the Aircraft Priority Access Selection Sequence), the agency is developing plans for operations designed to benefit owners and operators who complete NextGen equipage early to implement "best-equipped, best served" strategies that are under consideration.

- The FAA has awarded the Data Comm Integrated Services contract, which will provide for data communications between airport towers and appropriately equipped aircraft in 2016. Operational Data Comm trials are underway in Memphis and Newark with FedEx and United Airlines.

- Over the last two years, System Wide Information Management (SWIM) infrastructure investments have enabled significant advancement in the access and distribution of airport surface movement information. The surface movement data from 27 major airports is now available through a single portal to a broad range of external consumers. Today there are 19 external consumers, including many cargo and passenger airlines, vendors, and aviation research institutions, receiving surface movement data through this single portal. This allows operators to make better-informed decisions that improve their efficiency.

- During a Collaborative Departure Queue Management demonstration, FedEx saved several hundred minutes of taxi time during each bank of departures from Memphis International Airport. FedEx at Memphis has seen a 20 percent increase in departure runway throughput capacity, which has eliminated their departure gate holds and departure queues that were always present for their early morning departure rush - resulting in fuel savings, and being able to have additional minutes, if needed, in their package sort. Called arrival and departure rates have been raised from about 77 per hour to 99 per hour. Louisville, San Francisco, Houston, Miami and Philadelphia are scheduled to implement this change through the end of this calendar year and early next year.

- Performance Based Navigation (PBN) - which facilitates more efficient design of airspace and procedures which collectively result in improved access, capacity, predictability, operational efficiency, and environment - is providing greater operational flexibility. Some examples of PBN success are:

    - US Air reduces its carbon footprint by 51,000 tons per year by flying Optimized Profile Descents into Phoenix Sky Harbor International Airport.

    - As early as 2008, flights at Hartsfield-Jackson Atlanta International Airport were saving up to 60 gallons of fuel per flight by using more efficient Optimized Profile Descent procedures. That also equates to a 380 kg reduction in CO2 emissions.

    - Flights at Las Vegas and Henderson that used RNAV area navigation routes spent about 10 fewer minutes in the airspace within 200 miles of the airport. There were 14 percent fewer interactions between McCarran traffic and Henderson arrivals.

    - At Dallas-Fort Worth, RNAV departure procedures enabled additional diverging departures from the same runway yielding capacity increases of between 11-20 additional operations per hour resulting in approximately $8.5 million to $12.9 million in delay savings per year.

- The use of Required Navigational Performance (RNP) AR approaches at Chicago Midway allows aircraft landing RY13C to de-conflict with aircraft simultaneously departing Chicago O'Hare RY22L. Previously a one-in, one-out method was used to separate these operations.

- There are other examples of advantageous RNP AR use, such as approaches to Bishop, CA, that avoid terrain and provide access that previously didn't exist and approaches into Ronald Reagan Washington National Airport that use precise paths to avoid prohibited areas.

We work very hard to calculate and report the benefits that we accrue. We are projecting that NextGen will reduce overall delays by 41 percent by 2020, compared with what would happen if we did not implement any additional NextGen improvements.[3] These delay reductions will provide an estimated $38 billion in cumulative benefits through 2020. We estimate 16 million metric tons in cumulative reductions of carbon dioxide emissions through 2020, and 1.6 billion gallons in cumulative reductions of fuel use.

We have expanded our public reporting of NextGen performance through success stories and performance snapshots on our website. The FAA publishes NextGen-specific metrics at the local level in order to isolate and identify NextGen improvements at site-specific locations. Core airports, key city pairs, distance/time/fuel reduction, runway safety, the implementation and use of NextGen technology and procedures will continue to be important to understanding the value and benefits of modernization. Taken together, these metrics reveal the nationwide impact of NextGen development, which has already been shown to provide tremendous benefits to efficiency and the environment.

[3] In order to assess the full cost of delay, the Department of Transportation (DOT) considers the value of air travelers' time. From 2003 to 2011, this was estimated by DOT at $28.60 per hour. In the Revised Departmental Guidance on Valuation of Travel Time in Economic Analysis, DOT increased that value for 2012 to $43.50 per hour.

Challenges

A key limitation to measuring NextGen improvements is data availability. The FAA is working diligently on closing internal and external data gaps. In May 2013, the FAA launched the PBN Dashboard, a web-based tool that provides deployment and usage data on RNAV and RNP airport procedure in the NAS. This dashboard details procedure availability usage by runway and airport. The information collected and published on the Dashboard will support current and future analysis.

Another, more significant challenge we face is the uncertainty brought about by sequestration. The FAA reauthorization laid out a vision to address the future needs of our nation's aviation system. These needs have not gone away. It is important for us to work together to protect the great contribution that civil aviation makes to our economy.

The sequester and future funding unpredictability requires the FAA to make sizeable budget cuts that affect our operations and our future. While we are grateful that Congress passed budgetary flexibility for FAA to provide for a temporary solution to the FAA furloughs, this stop-gap measure does not end the ongoing challenges the sequester presents. We will not enjoy the benefits or the stability that reauthorization was intended to provide until we end the sequester and its fiscal consequences and find a sensible long-term funding solution. Without a predictable funding source, our ability to confidently develop long-range plans is compromised. I sincerely hope that we can work together to ensure that America continues to lead the world in the

development and implementation of aviation technology and operates the safest and most efficient aviation system in the world.

Mr. Chairman, this concludes my prepared remarks. I would be pleased to answer any questions you may have.