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TRANSPORTATION AND HOUSING AND URBAN DEVELOPMENT, AND RELATED AGENCIES APPROPRIATIONS FOR FISCAL YEAR 2014

THURSDAY, APRIL 18, 2013

U.S. SENATE,
SUBCOMMITTEE OF THE COMMITTEE ON APPROPRIATIONS,
Washington, DC.

The subcommittee met at 10:07 a.m., in room SD–138, Dirksen Senate Office Building, Hon. Patty Murray (chairman) presiding.

Present: Senators Murray, Feinstein, Collins, and Moran.

DEPARTMENT OF TRANSPORTATION

STATEMENTS OF:

HON. MICHAEL P. HUERTA, ADMINISTRATOR, FEDERAL AVIATION ADMINISTRATION

HON. CALVIN L. SCOVEL III, INSPECTOR GENERAL, OFFICE OF INSPECTOR GENERAL

OPENING STATEMENT OF SENATOR PATTY MURRAY

Senator MURRAY. Good morning. The subcommittee will come to order.

Today, we are going to hear testimony from the Federal Aviation Administration (FAA) Administrator Huerta and the Department of Transportation (DOT) Inspector General Scovel on the President's fiscal year 2014 budget request for the Federal Aviation Administration. I want to welcome both of our witnesses. Thank you both for being here this morning.

This hearing marks the beginning of our process to build a budget for the FAA for fiscal year 2014. But as we take a close look at the agency's budget request for the coming year, we have to acknowledge where we stand today. For far too long, some Members of Congress have been unwilling to reach a fair and balanced compromise on deficit reduction, and as a result we are now facing drastic and arbitrary cuts to Federal spending that is required under sequestration.

The process of sequestration has slashed the FAA's budget by more than $630 million, and it has hit just about every part of the agency, its operations and management of air traffic; its capital investments, including the Next Generation Air Transportation System (NextGen), the modernization of its air traffic control system; and its research activities. Some here in Washington, DC, claim the effect of such cuts will be minimal.

But Secretary LaHood has spoken out about the real impact these cuts will have on the FAA and our aviation system. He talked about how sequestration means the FAA will furlough its air traffic controllers, close down contract towers, and delay NextGen.

Secretary LaHood made it clear the FAA will not sacrifice the safety of our aviation system. Instead, the agency will reduce its services while ensuring air travel remains safe. However, reductions in air traffic control services will translate directly into an increase in travel delays.

We still need to see the details on how FAA plans to implement the cuts required by sequestration. This is important information for the subcommittee to consider as it develops a funding bill for next year.

Sequestration and a year-long continuing resolution enacted well into the fiscal year have made 2013 a challenging year for our agencies. But the fact remains that we have implemented large cuts to the funding for the Federal Government, and we still don't know exactly what Government services will look like after these cuts are implemented.

For fiscal year 2014, we must take seriously our responsibility to pass a budget that not only determines the total level of Government spending, but that reflects our priorities and puts into place the services we want to see fulfilled next year. We also need to make sure any potential cuts to the air traffic control system are fair and that FAA's process is transparent with adequate consideration given to the benefits and costs of specific tower closures.

Putting together this budget means we must take a hard look at the work the FAA has been doing. The FAA manages the most complex airspace in the world, and it is a world leader in protecting aviation safety.

Mr. Huerta, I look forward to hearing about your budget request and what you want to accomplish in the coming year. But we also have to recognize some problems at the FAA. The agency's history is filled with capital programs that run over budget, pass deadlines, and do not deliver on all of the promised capabilities. These problems continue to burden the FAA.

The agency recently awarded its System Engineering 2020 contract, which has a maximum value of $7.3 billion. For a contract of this size, it is disturbing that a recent report issued from the Office of Inspector General (OIG) found that the FAA cannot track costs accurately.

NextGen requires the FAA to coordinate the development of several complex capital programs. However, another recent report from the OIG points out that problems with the En Route Automation Modernization (ERAM) program have directly contributed to 2 years of delay in the FAA's effort to transition from voice to data communication, which is an essential part of NextGen.

Problems continue to plague the FAA's operations as well. Just this past February, the OIG issued a report on the increase in operational errors by air traffic controllers. The FAA is unable to determine whether the increase in errors reflects better data collection or an increase in actual errors committed by controllers. In addition, the FAA does not have a base line that can be used to measure any improvement in operational errors.

The OIG has also reported recently on the FAA's inability to develop an effective model for its aviation inspector staffing. After spending 7 years developing it, the FAA still does not have a model

it can use to justify its budget request or to place its aviation inspectors efficiently across our globe.

Mr. Scovel, your office has done excellent work on all these topics. I look forward to hearing your perspective on these issues as we discuss them this morning.

We do need to hold the FAA accountable for how it spends taxpayer dollars. As we move forward in this tight budget environment, the FAA cannot afford to continue any kind of mismanagement.

PREPARED STATEMENT

At the same time, we need to do our job here in Congress. We need the FAA doing its job on aviation, not trying to figure out how to move forward without a real budget in place. And that's why it's so important for this subcommittee and this Congress to return to regular order to pass a full appropriations act that reflects the priority of Congress and to pass it on time and through the regular process.

With that, I will turn it over to my ranking member, Senator Collins.

[The statement follows:]

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—its operations and management of air traffic;

—its capital investments, including the Next Generation Air Transportation System (NextGen), the modernization of its air traffic control system; and

—its research activities.

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Secretary LaHood made it clear that the FAA will not sacrifice the safety of our aviation system. Instead, the agency will reduce its services while ensuring air travel remains safe. However, reductions in air traffic control services will translate directly into an increase in travel delays.

We still need to see the details on how the FAA plans to implement the cuts required by sequestration. We need to know:

—How the FAA will invest its funding for facilities and equipment;

—How many furlough days will be imposed on FAA employees; and

—After delays in the FAA's schedule for closing down contract towers, the status of each and every tower in the coming months.

This is important information for the subcommittee to consider as it develops a funding bill for next year.

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still don't know exactly what Government services will look like after those cuts are implemented.

For fiscal year 2014, we must take seriously our responsibility to pass a budget that not only determines the total level of Government spending, but that reflects our priorities, and puts into place the services that we want to see fulfilled next year.

We also need to make sure that any potential cuts to the air traffic control system are fair and that FAA's process is transparent, with adequate consideration given to the benefits and costs of specific tower closures.

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The FAA manages the most complex airspace in the world, and it is a world leader in protecting aviation safety. Mr. Huerta, I look forward to hearing about your budget request and what you want to accomplish in the coming year.

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We need to hold the FAA accountable for how it spends taxpayer dollars. As we move forward in this tight budget environment, the FAA cannot afford to continue this kind of mismanagement.

At the same time, we need to do our job here in Congress. We need the FAA doing its job on aviation, not trying to figure out how to move forward without a real budget in place.

And that is why it is so important for this committee and this Congress to return to regular order: To pass a full appropriations act that reflects the priorities of the Congress, and to pass it on time and through the regular process.

STATEMENT OF SENATOR SUSAN M. COLLINS

Senator COLLINS. Thank you very much, Madam Chairman.

Welcome, Administrator and also Inspector General Scovel.

Mr. Huerta, I understand that this is your first time testifying before our subcommittee, so I want to particularly welcome you.

There is another group here today that I would like to welcome. You may have noticed, Madam Chairman, as our subcommittee convened that there was a group of students in bright green tee shirts——

Senator MURRAY. Hard to miss.

Senator COLLINS [continuing]. Who came into the room. They are from the Presque Isle, Maine, Middle School, and they have just arrived on a school visit. We were going to meet up earlier, but getting into the building is slow, as you know. So I invited them to observe a bit of the hearing, and I will sneak out into the hall to

take a quick picture with them. But I am delighted to welcome the Presque Isle Middle School students and teachers and chaperones here today to Washington, DC.

It's not the entire school, but I believe we have 58 students coming. So I knew that that would help increase the attendance for our hearing today.

Senator MURRAY. Welcome to all of you.

Senator COLLINS. Just over 1 year ago, we passed the FAA reauthorization bill. I look forward to hearing the testimony regarding the status of ongoing initiatives within the agency. The challenges that the FAA faces throughout the remainder of this fiscal year and into the next fiscal year are truly daunting, not only because we are operating under a continuing resolution, which was certainly not the choice of the chairman or myself, but also coping with the impact of sequestration.

It's important to remember that the $637 million reduction from sequestration must be implemented in a way that ensures safety while minimizing the impact to the traveling public. Not only do I travel home to Maine every weekend—so this affects all Members of Congress personally—but I represent a State where tourism is very important, and being able to have an efficient air traffic control system is very important to the success of the tourism industry, which is a pillar of the economy of the State of Maine.

FAA recently announced its plans to achieve these savings, and I very much appreciated the call from the Administrator. But I am concerned that the result will be furloughs, the closure of contract towers, and the elimination of midnight services, among other controversial cuts.

In my home State of Maine, Bangor International Airport is one of the airports that is affected by the elimination of midnight tower closures. If the FAA moves forward with this plan, it will be very detrimental to airport operations. And let me explain why.

The Bangor Airport is a major port of entry and a diversion point for a wide mix of air traffic, including the return of our Nation's troops from overseas. Indeed, in the last decade, more than 1 million troops have landed at Bangor, Maine, and they've been met every single time by local troop greeters, even if they arrive in the middle of the night or the middle of a snow storm.

In addition, Bangor is a diversion point for planes with troubled passengers. Whenever there is an issue, whether it's a medical issue or an unruly passenger, or it is determined that an individual is on the no-fly list and should not be admitted into the country, the plane inevitably is diverted to Bangor.

The curtailment of air traffic control services will increase operational risk. Presence of a 24/7 FAA tower with full terminal radar services was a key determining factor in choosing Bangor as a Noble Eagle alert site post 9/11. The missions flown in and out of Bangor during these hours by the military are not always scheduled to air traffic, and the Bangor Air National Guard base, which shares the commercial airport space, has the infrastructure and maintenance support to handle these short notice transients.

These diversions, as well as the civil diversions for homeland defense, are often circumstances where a pilot needs the support of a tower or radar control to help ensure safety. So I very much hope

that these military and homeland defense factors are taken into consideration when the FAA finalizes its plans.

As the chairman mentioned, I know that the FAA is undertaking a long-term effort to improve the efficiency, safety, and capacity of the aviation system through NextGen. This is a critical system, but it has been plagued with some delays and cost overruns. It's a multibillion dollar effort that is absolutely essential to modernizing our airspace, and it will have the benefits of reducing delays and fuel consumptions to the nearly 2 million passengers traveling on over 50,000 flights controlled each day here in the United States alone.

This obviously has been a complex procurement, and we need to ensure that NextGen delivers the promised benefits while representing a sound investment of taxpayer dollars. I recognize that over the past several years, the aviation industry has faced some tough economic decisions. Aviation plays a critical role in economic growth, jobs, and investment, and the chairman and I share the goals of keeping our national aviation system the largest, safest, and most efficient in the world.

There are several other issues that I am going to discuss when we get to the questions. For example, I'm concerned about the number of runway incursions that have dramatically increased in recent years. And that has happened at a time when air traffic operations have been declining.

I am also concerned about the cutbacks in the Airports Improvement Program (AIP). I know the airports in my State rely heavily upon this program and are concerned with any reduction in AIP whether the reductions are made to small, medium, or large airports.

I'll also be asking about the latest developments with Boeing's 787 aircraft. I have a feeling that may be of interest to the chairman as well.

It is critical that we work together, and I look forward to doing just that. If the chairman will excuse me for just a few moments, I am going to go take a quick picture, and I will be right back.

Senator MURRAY. I noticed your class went out in the hall, so they're waiting for you.

PREPARED STATEMENT

Senator COLLINS. Thank you.

[The statement follows:]

PREPARED STATEMENT OF SENATOR SUSAN M. COLLINS

Thank you Chairman Murray. Welcome Administrator Huerta and Inspector General Scovel. Mr. Huerta, I understand this is your first time appearing before this subcommittee.

Just over 1 year since the final passage of the Federal Aviation Administration (FAA) authorization bill, I look forward to hearing the testimony regarding the status of the ongoing initiatives within the agency.

The challenges the FAA faces the remainder of this fiscal year and into fiscal year 2014 are daunting not only because of operating under a continuing resolution but compounded with sequestration. It is important that the $637 million reduction from the sequester be implemented in a way that ensures safety while minimizing the impacts to the traveling public. FAA recently announced its plans to achieve this savings, which resulted in furloughs, the closure of contract towers, the elimination of midnight services, among other controversial cuts.

In my home State, Bangor International Airport is one of the airports affected by the elimination of midnight tower closures. If the FAA moves forward with this plan, it will be detrimental to airport operations. Bangor Airport is a major port-of-entry and diversion point for a wide mix of air traffic, including the return of our Nation's troops from overseas and the diversion point for planes with troubled passengers.

The curtailment of air traffic control services will increase operational risk. Presence of a 24/7 FAA tower with full terminal radar services was a key determining factor in choosing Bangor as a Noble Eagle alert site post 9/11. The missions flown in and out of Bangor during these hours by the military are not always scheduled air traffic, and Bangor Air National Guard Base has the infrastructure and maintenance support to handle these short notice transients. These diversions, as well as civil diversions for homeland defense, are often circumstances where a pilot needs the support of tower/radar control to help ensure safety. These military factors must be taken into consideration when the FAA finalizes its plans.

The FAA is undertaking a long-term effort to improve the efficiency, safety, and capacity of the aviation system through the Next Generation Air Transportation System (NextGen). FAA's recent estimate for NextGen's total cost through 2025 is expected to be between $15–22 billion, with the private sector contributing an additional $5–7 billion. This multi-billion dollar effort to modernize the national air space will provide many benefits, such as reducing delays and fuel consumption to the nearly 2 million passengers traveling on over 50,000 flights controlled each day here in the United States alone.

FAA has been working hard to address the many challenges identified with these highly complex initiatives, but much work remains to ensure programs are implemented on time and within budget. With this undertaking, processes must be improved and updated while eliminating duplication and waste in order to make the agency more efficient and effective. It is our obligation to ensure NextGen delivers the promised benefits and represents the sound investments of taxpayer dollars.

Over the past several years, the aviation industry, as with many other industries, has faced tough economic hardships. Aviation plays a critical role in driving economic growth, jobs, and investment across the country. Chairman Murray and I share the goals of keeping our national aviation system the largest, safest, and most efficient in the world.

While the FAA is continuing efforts to improve safety on the Nation's airport runways, the number of runway incursions has dramatically increased in recent years. This is particularly alarming given that air traffic operations have declined at the same time.

The fiscal year 2014 budget proposes $15.5 billion for the FAA, which is a $312 million increase over the current sequestered levels. This provides $9.7 billion for the Operations account, $2.8 billion for Facilities and Equipment, $166 million for Research, Engineering and Development, and $2.9 billion for the Airports Improvement Program (AIP). It is worth noting that the reduction to AIP is coupled with removing large airports from the program which will be offset with an increase to passenger facility charge fees. I am concerned with this proposal as this funding is essential to airports throughout the Nation. The airports in Maine rely heavily upon this program and are concerned with any reduction to AIP, whether the reductions are made to small, medium, or large airports.

I am also interested in the latest developments with Boeing's 787 aircraft. FAA has now approved Boeing's proposed certification plan that will, I hope, address factors that likely contributed to the battery incidents. I understand testing and design modifications have been completed and FAA is analyzing the results. I am eager to know when FAA anticipates its final approval allowing the 787s to continue its operations.

The future of aviation is in our hands. It is critical that FAA remain vigilant in its oversight responsibilities, and I look forward to working with you both on these efforts.

Senator MURRAY. Thank you very much. And I will turn to Mr. Huerta to begin his testimony.

Again, welcome to our subcommittee.

SUMMARY STATEMENT OF HON. MICHAEL P. HUERTA

Mr. HUERTA. Thank you very much, Chairman Murray, Ranking Member Collins, and members of the subcommittee. Thank you for the opportunity to be here today to discuss the FAA's 2014 budget

request. As you are aware, this is my first appearance before you as Administrator of the FAA.

I appreciate the support of the Senate in moving my confirmation forward. We have a great number of challenges and a great number of opportunities ahead, and I sincerely hope to enjoy a long and effective relationship with this subcommittee.

The FAA's fiscal year 2014 budget request is $15.6 billion. The budget upholds our critical safety programs while also deploying key NextGen benefits to our stakeholders and modernizing our aviation infrastructure. It does this at funding levels that are $351 million below fiscal year 2012. This is a 2.2-percent decrease, which is part of the President's overall effort to reduce our Nation's deficit.

The FAA's proposed budget for 2014 assumes a long-term solution to our Nation's budget deficit and no sequester. The 2014 proposed budget would allow us to maintain staffing for air traffic control and for aviation safety. It would allow us to maintain capital investment in both airport infrastructure and FAA facilities and equipment and fund research and development.

The budget requests $1 billion for NextGen, which is an increase of about 7 percent above 2012, in order to continue to support near-term progress. This request would help us continue to mitigate congestion in busy airspace above metropolitan areas, and it would help us with the continued deployment of radio transceivers that allow us to use very precise satellite-based information to control air traffic.

The FAA is requesting $9.7 billion in our operations account. This represents an increase of just 0.6 percent above the fiscal year 2012 enacted level. This request will enable us to run the agency on a day-to-day basis and maintain and support our air traffic control and air navigation systems.

It ensures the safe operation of the airlines and the certification of new aviation products. It would also enhance the safety of the commercial space transportation industry and provide overall policy oversight and management of our airspace.

The operations budget includes an additional $30 million to maintain and operate the new En Route Automation Modernization System, or ERAM, that became operational in the last 2 years. ERAM is at the heart of NextGen. It helps us to advance our transition from a ground-based system of air traffic control to a satellite-based system of air traffic management.

The 2014 budget allows the FAA to meet the challenge of both maintaining the capacity and the safety of the current system, while keeping our comprehensive modernization and transformation efforts moving forward. The majority of the $2.8 billion requested for facilities and equipment is to sustain legacy areas. This includes aging infrastructure, power systems, information technology, navigational aids, and weather systems.

This year's request for research, engineering, and development (RE&D) is $166 million, a decrease of 7 percent from 2012. Nonetheless, we intend to continue critical research in NextGen and other areas such as fire research and safety, propulsion and fuel systems, advanced materials research, alternative fuels, aging aircraft, and Unmanned Aircraft Systems.

Our budget emphasizes cost efficiency and reflects the hard choices we must make to provide the most benefit to the flying public. As a result, we're proposing to modify the mix of funding available for airport development projects.

The budget would allow commercial service airports to increase the passenger facility charge from the current maximum of $4.50 to $8.00. This gives airports greater flexibility to generate more of their own revenue, and it allows us to reduce our request for the ongoing Airport Grants Program by $450 million. This change focuses Federal resources on smaller airports that don't have the passenger volume to generate their own revenue yet are still important to our Nation's air transportation network.

The President's 2014 budget request represents a balanced approach to achieving a long-term solution to our Nation's budgetary challenges. And this is critical when we consider the impact of the sequester on our aviation system in the current fiscal year.

As you noted, the cuts required by the sequester have forced us to slash contract expenses and furlough 47,000 of our employees. With employees working fewer hours, we will have a less efficient air traffic system and less time for safety inspectors to certify new aircraft for the market. It's my hope that we can work together to rally around our Nation's air transportation system and protect the great contribution that civil aviation makes to our national economy.

PREPARED STATEMENT

Madam Chairman, this concludes my prepared remarks, and I would be pleased to answer any questions you might have.

Senator MURRAY. Thank you very much.

[The statement follows:]

PREPARED STATEMENT OF HON. MICHAEL P. HUERTA

Chairman Murray, Ranking Member Collins, members of the subcommittee: Thank you for the opportunity to speak to you today. This is the first time I am testifying before you as the confirmed Administrator of the Federal Aviation Administration (FAA). I sincerely hope to enjoy a long and effective relationship with you and this subcommittee.

The FAA's fiscal year 2014 budget request of $15.6 billion strikes a balance between maintaining current infrastructure while deploying key Next Generation Air Transportation System (NextGen) benefits to our stakeholders, upholding our critical safety programs, and modernizing our aviation infrastructure at funding levels that are $351 million lower than fiscal year 2012. This is a 2.2-percent decrease, which is part of the President's effort to reduce the deficit.

The FAA's Operations request of $9.7 billion represents an increase of just 0.6 percent above the fiscal year 2012 enacted budget. This funding level includes $30 million to provide maintenance for newly transitioned En Route Automation Modernization (ERAM) systems, as well as modest inflationary adjustments for FAA's workforce, rent and lease increases, and costs for a Service Center building project.

This budget includes program adjustments of $62 million from the fiscal year 2012 level in the Air Traffic Organization (ATO). To achieve these savings, ATO will be evaluating cost-savings and efficiency gains in the following areas: Contract Weather Observations, Facility Realignments and Consolidations, and Very High Frequency Omnidirectional Range (VOR) Minimum Operational Network (MON).

The budget allows FAA to meet the challenge of both maintaining the capacity and safety of the current National Airspace System (NAS) while keeping our comprehensive modernization and transformation efforts moving forward. The Facilities and Equipment (F&E) request of $2.8 billion represents a 1.7-percent increase from the fiscal year 2012 enacted level.

The F&E NextGen portfolio is $928 million in fiscal year 2014, a 7.5-percent increase above the fiscal year 2012 enacted level. This funding provides FAA with the resources needed to continue our ongoing NextGen modernization activities, including nationwide Automatic Dependent Surveillance-Broadcast (ADS–B) deployment. It also provides for follow-on ERAM development for future NextGen capabilities and publication and accelerated development of Precision Based Navigation (PBN) procedures that will provide greater flexibility in the NAS and to facilitate more dynamic management of air traffic. The remainder of our investment—representing over $1.8 billion—will be in legacy areas, including aging infrastructure, power systems, information technology, navigational aids, and weather systems.

The fiscal year 2014 Research, Engineering, and Development (RE&D) request of $166 million is a $1.5 million (1 percent) decrease from the fiscal year 2012 enacted level. This supports FAA's continued work in both NextGen and other research areas such as fire safety, propulsion systems, advanced materials, aircraft icing, and continued airworthiness. The RE&D NextGen portfolio is $61.4 million, an increase of $1.6 million above the fiscal year 2012 enacted level, and supports NextGen-specific research into wake turbulence, human factors, and clean aircraft technologies. This includes $12 million for the Joint Planning and Development Office (JPDO) to continue their leadership in coordinating interagency initiatives.

The FAA must meet our Nation's growing need for UAS. Our RE&D request provides $7.5 million to support this critical area through research on UAS technologies which directly impact the safety of the NAS. The program is focused on sense and avoid and command and control requirements that will support the safe integration of UAS in the NAS within the 14 Code of Federal Regulations regulatory framework.

The NextGen Alternative Fuels for General Aviation program is requested at $5.6 million in order to support the recommendations of the Unleaded Avgas Transition Aviation Rulemaking Committee. Funding for the Environment and Energy program is requested at $33.5 million. This program supports a range of activities, including research to mature certifiable clean and quiet aircraft technologies, and develop sustainable fuels. The program also supports enhanced NextGen environmental research via the Continuous Low Energy, Emission and Noise (CLEEN) program and other vehicles.

Airports remain a critical part of the aviation system infrastructure. Our fiscal year 2014 request provides the funding needed to ensure safety, capacity, and efficiency at our Nation's airports through a combination of grant funding and an increase in Passenger Facility Charges (PFCs). Our $2.9 billion request supports our continued focus on safety-related development projects, including runway safety area improvements, runway incursion reduction, aviation safety management, and improving infrastructure conditions.

The fiscal year 2014 budget proposes to lower funding for Airport Grants to $2.9 billion by eliminating entitlement funding for large hub airports while maintaining discretionary eligibility. To assist the airports that need the most help, the budget focuses traditional Federal grants to support smaller commercial and general aviation airports that do not have access to additional revenue or other sources of capital. At the same time, our proposal allows airports to increase non-Federal Passenger Facility Charges (PFC) from the current maximum of $4.50 to $8 which provides them with greater flexibility to generate their own revenue. If all commercial service airports increase the PFC collection to $8 they could generate $2.39 billion in additional funding for airport projects.

The fiscal year 2014 budget proposes that we work with the insurance companies and air carriers to build private capacity to insure against war risk occurrences. Our co-insurance proposal would build this private capacity through a transition period where risk is shared between the FAA and private insurers. In the first year of transition, the FAA would bear the majority of the risk, easing private insurers back into the market.

Private parties would play a large role in setting terms, conditions, and pricing of coverage under the proposed arrangement. Air carriers and insurers would have flexibility to develop terms and conditions that meet the carriers' needs while enabling the insurers to offer coverage at affordable prices. The FAA is ready to work with insurers and carriers to find parameters that make for viable coverage under this proposal.

Under the co-insurance proposal, FAA and commercial insurance providers would jointly underwrite a common policy. In the case of a claim, FAA would pay an established fraction of the losses (for example 80 percent), and a commercial insurance company would pay the remainder. Air carriers would be free to negotiate the charge for the commercial fraction of the coverage with the insurance company. For FAA's share of the risk, FAA would charge the lesser of the current cap and a rate

proportional to what the commercial insurance company is charging under the same policy.

This budget supports continued progress on our NextGen efforts. The entire fiscal year 2014 NextGen portfolio totals $1.002 billion distributed among F&E programs ($928.1 million), Research, Engineering and Development programs ($61.4 million) and Operations activities ($12.6 million). This investment portfolio reflects an increase of $67.2 million, or approximately 7 percent, above the fiscal year 2012 enacted level. This level of program funding enables the FAA to continue to support near-term NextGen commitments in a budget-constrained environment.

While the thrust of our work focuses on U.S. airports, airspace and aircraft, the FAA actively engages with global aviation partners to ensure operators receive benefits anywhere in the world.

One immediate benefit to the public is the NextGen Metroplex initiative. The FAA is working to improve the efficiency of airspace above congested metropolitan areas by designing precise GPS routes that will accelerate benefits while reducing bottlenecks and congestion. These routes will enhance safety and efficiency, and foster the flow of commerce. Satellite-based navigation is expected to cut a total of 7 million nautical miles from flight plans around these cities each year. These routes, together with gradual descents that cut back on engine power, are projected to save at least 22 million gallons of fuel. For these cities, this represents total reduction in carbon emissions of 220,000 metric tons. That is the equivalent of removing more than 43,000 cars from the streets.

Fiscal year 2014 will see the continuation of NAS-Wide deployment of the Automatic Dependent Surveillance-Broadcast (ADS–B), the cornerstone of our transformation to satellite enabled, GPS-based navigation. We expect the total complement of about 700 radio stations to be in place and operating by early 2014. Fiscal year 2014 funding is also included for the development of ADS–B software requirements for the Advanced Technologies and Oceanic Procedures (ATOP) automation platform.

In December 2011, the FAA announced contract awards to analyze fuel quality control procedures, conduct jet engine durability tests with alternative fuels and perform key testing to support qualification and certification of jet biofuels from alcohols, organic matter, and other renewable materials. We expect these activities to support the next round of jet fuel approvals, scheduled to begin in 2014.

NextGen's contribution to our Nation's economic recovery and future leadership is critical. We recognize the fiscal challenges our Nation faces. America's future demands that we continue to invest in modern technologies that pave the way for tomorrow's capabilities. We continue to work in full partnership with industry, other agencies and departments, and with our labor groups to achieve a shared vision, leveraging powerful technologies and setting new standards for the future of global aviation.

Safety has always been FAA's number one mission, and our National Airspace System (NAS) has never been safer. There has not been a fatal commercial passenger accident in the United States since 2009. That represents approximately 39.7 million flights that were operated safely. I am proud of the hard work that has gone into providing a basis for achieving this level of safety. As we move forward into 2013 and beyond, U.S. aviation is experiencing its safest period ever, and the dedicated men and women of the FAA will continue working diligently to maintain safe operations within the NAS.

We are achieving this next level of safety by making our programs smarter and more data-driven. Our Nation's safety record is a direct result of an unwavering commitment by Government and industry to work together to monitor data and identify trends to prevent accidents. Instead of a reactive, forensic approach to safety management, we are identifying and mitigating conditions or trends that have potential to give rise to safety problems. The only way to prevent accidents before they happen is to accurately identify risk areas and work to mitigate them. This is possible due, in part, to voluntary reporting for both FAA and industry employees, safety management systems (for both FAA and industry) and the creation of the Aviation Safety Whistleblower Investigation Office. All of these efforts have been providing the agency with data and information to which we have never before had access. More information results in FAA being able to see trends that could lead to accidents, and mitigate the associated risks to prevent accidents from happening. Adjusting the safety culture to ensure employees that they can provide information without fear of reprisal is a cornerstone of our approach to safety.

In 2012 we continued to expand the Aviation Safety Information Analysis and Sharing (ASIAS) system, which now covers 95 percent of all commercial flights in the United States. This system allows airlines to share operational data and voluntary safety reports with each other and the FAA. ASIAS and other data analysis

tools are constantly making our aviation system even smarter. With these tools, we are able to conduct more comprehensive safety and performance analysis, and share this information with industry stakeholders.

With regard to the Boeing 787, last month Boeing redesigned the battery system and the FAA approved the company's plan for showing that the redesign will work. Approving the certification plan was the first step in the process to evaluate the 787's return to flight. Boeing has redesigned the internal battery components and added better insulation for the battery cells. They have also added a robust battery containment and venting system. The company has done extensive testing, including limited test flights, without passengers, using the redesigned battery prototype. The FAA is reviewing these test reports and analysis to make sure that the new battery system ensures the safety of the aircraft and its passengers.

We all know the importance of aviation to America and the global economy. Aviation creates jobs and trade, and it connects us to destinations near and far. The forecast we released March 6 shows that aviation will continue to expand both domestically and internationally over the coming decades. And traffic volume for U.S. carriers is expected to rise by more than 75 percent in the next two decades.

Last year, 737 million people flew on U.S. carriers, and we anticipate that number to hold steady this year. Our future outlook shows continued positive growth. In fact, we can expect roughly 400 million more people flying 20 years from now, an increase equal to more than today's U.S. population.

It is essential to the effective management of FAA's programs to have stability and predictability that can be relied upon. The many authorization extensions over the last few years took a toll on FAA's work in certain areas until the Federal Aviation Reauthorization Modernization and Reform Act of 2012 offered the stability essential to our agency's ability to meet the current demands of both air traffic and aviation safety. For many years, FAA labored under the uncertainty of temporary reauthorizations. Now sequestration places us in an even more extreme uncertainty. FAA has worked hard to plan for sequestration cuts. Seventy percent of FAA's Operations budget is dedicated to employee salaries and benefits, so they must bear a significant portion of the cuts. I can assure you that safety is the FAA's top priority. If sequestration means fewer flights can be safely accommodated in the NAS, then there will be fewer flights.

On March 5, FAA began issuing furlough notices to over 47,000 employees. There will be 1 furlough day per biweekly pay period, for a maximum of 11 days through September 30. We issued final furlough determination notices to employees in early April. We are also planning to eliminate midnight shifts in over 70 towers across the country, close over 149 air traffic control towers at airports with fewer than 150,000 flight operations or 10,000 commercial operations per year, and reduce preventative maintenance and equipment provisioning and support for all NAS equipment. All of these changes are being made in collaboration with our stakeholders and our unions.

As a result of employee furloughs and prolonged equipment outages resulting from lower parts inventories and fewer technicians, travelers should expect delays. Flights to major cities like New York, Chicago, and San Francisco could experience delays of up to 90 minutes during peak hours because we will have fewer controllers on staff. We are aware that these service reductions will adversely affect commercial, corporate, and general aviation operators. We also expect that, as airlines estimate the potential impacts of these furloughs, they will change their schedules and cancel flights.

Beyond the impacts to air traffic, aviation safety employees will also experience furloughs. This will impact airlines, aviation manufacturers, and individual pilots who need FAA safety approvals and certifications. While the agency will continue to address identified safety risks, a slowed certification and approval process due to furloughs could negatively affect passengers and all segments of the aviation industry.

We all want the same things. We want to get better at what we do, think smarter, improve safety, streamline certification, and remain the agency that can work collaboratively with the world to develop safer and more efficient practices. Sequestration will not stop us from trying to attain these goals, but it will make it much, much harder.

Despite these uncertain times, the demand for aviation and its services will continue to grow, and that is why it is critical that we invest smartly. Our world will continue to be even more interconnected, and aviation will continue to be a pillar of the global economy. NextGen will help us meet the challenges that lie ahead, as we transform from ground-based radar to satellite-based navigation, a work we are performing in collaboration with our industry partners. We are seeing its benefits

already, and will continue to do so in the coming years as it becomes an even more integral component of our aviation system.

In 2012 we made several noteworthy strides delivering NextGen benefits to operators and the traveling public. Laying the groundwork is our En Route Automation Modernization (ERAM) program, the platform upon which NextGen capabilities will be realized. This enabler of NextGen has been deployed at over half of our facilities controlling high-altitude air traffic, and eight En Route centers are now using ERAM as their primary means of controlling aircraft. Five NextGen transformational programs are now under contract, most recently Data Communications and NAS Voice System. We also deployed the Automatic Terminal Proximity Alert tool in several locations, which has helped air traffic controllers better manage aircraft spacing to safely achieve optimal efficiency on final approach. And our System Wide Information Management tools are providing National Airspace System users with more precise weather information and airport surface data.

This past year, our deployment of satellite-based Performance Based Navigation (PBN) procedures increased both safety and capacity across the country as part of our Metroplex initiative. From northern California to southern Florida, we are implementing PBN to more efficiently use our Nation's airspace for direct routing. In addition, through data analysis, procedure improvements, and effective training for controllers as well as pilots, we safely modified the separation standards for approaches to parallel runways at a number of busy airports. Taken together, these initiatives are helping airlines improve on-time performance, reduce fuel consumption, and deliver travelers to their destinations more efficiently.

We continue to engage through our work with Optimization of Airspace and Procedures (OAPM) initiatives, which are being done in close collaboration with industry and stakeholders. OAPM is actively working in 9 of the 13 metroplexes identified in Phase 1 of the program. Of these, one (Houston) is currently in the implementation phase with two additional sites planned to start implementation of the new procedures later this summer (DC and North Texas). The metroplex initiative optimizes procedures in a geographic area where there are a number of airports, rather than focusing on each airport separately. Through this initiative, we are untangling our busiest airspace and creating more direct routes, cutting fuel usage, and becoming more environmentally friendly. In the congested airspace in the skies above our busiest metropolitan areas, these new modifications are being put in place in 3 years, much more quickly than the 5 to 10 years it had taken previously. We are also actively engaged with our industry and Government partners in the development of NextGen through, for example, the NextGen Advisory Committee (NAC). This group is helping to guide many aspects of our air traffic modernization work. The NAC also works on developing and recommending NextGen performance metrics.

Another key component of NextGen is reducing aviation's impact on the environment. Last year we advanced a number of critical initiatives toward this goal. We made great headway in developing a replacement for leaded aviation gasoline through our collaboration with industry and technical research. We partnered with industry through our Continuous Lower Energy, Emissions, and Noise (CLEEN) program to test aircraft with new wing and engine designs, as well as a blended sustainable biofuel. And we are collaborating with our Nation's airports to develop renewable energy sources and sustainability to reduce emissions. For example, this year we provided Airport Improvement Program (AIP) grants to Chattanooga Metropolitan Airport for construction of a 4,000 panel solar farm, and to Chicago O'Hare International Airport for low-emission electrical power units used by aircraft parked at the gate.

While NextGen is delivering benefits now, it also builds for the future. Similarly, the past year we made progress toward ensuring safety in industry segments where we anticipate significant growth in the coming years: Unmanned Aircraft Systems (UAS) and Commercial Space Transportation. FAA employees are working creatively with our industry partners to meet the challenges of these dynamic sectors.

We are working to safely integrate Unmanned Aircraft Systems into our national airspace. In March 2012, the agency created a new UAS integration office. The office serves as the FAA's one-stop portal for all matters related to civil and public use of UAS in the NAS. The FAA is in the process of drafting the initial Notice of Proposed Rulemaking for small UAS. In addition, on February 14, 2013, the FAA released the Screening Information Request (SIR) to outline the process in which the FAA would collect, evaluate and select six test sites across the country to test Unmanned Aircraft Systems. We plan to select those UAS test sites by the end of this calendar year.

Just as with unmanned aircraft, the FAA is working to safely integrate commercial space operations into the national airspace system as well. To date, the FAA

has licensed 215 commercial space launches and reentries. They have gone off without a fatality, a serious injury, or significant property damage. Last year, we licensed the historic launches of the SpaceX Falcon 9 rocket—marking the first time a commercial company delivered cargo to the International Space Station. Missions like these continue to demonstrate the viability of the commercial space industry. The FAA has also licensed a total of eight commercial spaceports. In fiscal year 2014, our commercial space division is requesting to convert four contract resources to Federal employees so they can expand their workload to include responsibilities that are inherently governmental. These additional duties would include safety inspections, compliance assessments, regulatory activity support, and inter-agency coordination efforts to create common safety standards.

Efficiencies are not just for the future. Given the economic challenges we are facing, FAA has worked very hard to find cost-savings and we have been quite successful. Even before sequestration, we have set a target of $91 million in cost-savings for fiscal year 2013. We recognize that the status quo is not an option and we will continue to strive to achieve additional efficiencies moving forward.

Last year we made great strides in finding efficiencies, leveraging our resources, empowering our employees, and making greater use of technology to perform our core mission. Through a congressional reprogramming request under our Foundation for Success initiative, we streamlined finance, information technology, acquisition, and other essential functions within a shared services organization. The results included enhancing delivery of information technology services at a lower unit cost. Additionally, the FAA's Aeronautical Center, which supports the NAS as well as international partners, generated nearly $16 million in cost-savings or avoidance last year through streamlining processes and continuous improvement initiatives. Overall in 2012, we generated nearly $94 million in cost-savings or avoidance through control measures and innovative business solutions.

One of our most significant accomplishments of the year came in the wake of one of the Nation's biggest challenges. Hurricane Sandy devastated homes and infrastructure throughout the Northeast. Though the region's airports experienced flooding and other significant damage, our technical staff worked around the clock to restore airfield and air navigation systems to operational status. Their hard work and dedication to the FAA's mission resulted in the restoration of normal air traffic operations just days after the storm. Seeing our workforce's efforts to prepare for and rebuild after this unprecedented storm is one of my proudest moments as head of the FAA. The agency is grateful for the $30 million in emergency relief funding entrusted to us by this committee. We are already putting these funds to good use to repair roofs and walls at FAA facilities, navigation and landing systems, power systems, and other structures and equipment. In total, the funds will support 59 repair projects at 21 different locations.

In the current fiscal climate, we must find ways for FAA's employees to work smarter and enhance our productivity. FAA must not only meet our day to day responsibilities, we must also look to the future and figure out how to shape the agency to meet the demands and opportunities of the future. We are actively engaging our employees in the development of recommendations for facilities consolidation and realignment. As noted earlier, the U.S. aviation system is going through significant, even revolutionary changes. NextGen is a major transformation which will increase our efficiency and safety, reduce delays and reduce fuel consumption. UAS have the potential to change the face of aviation. In the midst of these changes, budget pressures are making us ask hard questions about what the FAA needs to deliver in the coming years to ensure the safety and efficiency of the NAS and how to do it most cost-effectively.

Finally, it is essential that we chart innovative and collaborative ways to engage with all segments of the aviation sector, from airlines to association groups, to general aviation, to unions. We must embrace the opportunity to make long-lasting changes together that ensure a vital and vibrant aviation industry that serves the needs of this Nation.

I am extremely proud of our achievements. While I recognize there is still much work to be done, I know we are up to the task. In the years ahead we will strive to build on these achievements. We will work toward making the safest aviation system even safer and smarter; accelerate the benefits of new technology; and empower employees to increase efficiencies and spur greater innovations. The decisions we make over the next few years are going to affect the air transportation system in the United States for decades to come, and I am eager to work with you and your colleagues to reach the next level of aviation safety and efficiency.

Senator MURRAY. Mr. Scovel.

SUMMARY STATEMENT OF HON. CALVIN L. SCOVEL III

Mr. SCOVEL. Madam Chairman, Ranking Member Collins, members of the subcommittee, thank you for inviting me to testify on FAA's fiscal year 2014 budget. Like other agencies across the Government, FAA is having to rethink its funding priorities and make difficult tradeoffs in a most trying fiscal environment.

My testimony today will focus on how FAA can achieve efficiencies through more effective management of its workforce, the agency's largest cost driver, and its modernization efforts while not losing sight of its safety mission. My office has identified multiple opportunities for FAA to reduce costs in managing its controller and inspector workforce.

The agency has been challenged to ensure thousands of newly hired controllers have the skills needed to carry out their critical role. Cost overruns on FAA's controller training contract have reached almost $89 million. And training times for newly hired controllers have increased by 41 percent since 2009. To meet its goals of reducing training costs and times, FAA needs to provide stronger contract controls, including how it awards incentive fees.

FAA also needs to rethink its processes for scheduling controllers. While air traffic operations have declined by 23 percent since 2000, FAA today employs slightly more controllers than it did then. Improved scheduling, particularly on overnight shifts at low activity towers, could enhance productivity as well as yield additional cost-savings.

The agency similarly needs to improve how it allocates its 4,000 flight standards safety inspectors. FAA has yet to find a reliable model for determining how many inspectors it needs and where they are needed most to address the greatest safety risks and get the best return on investment.

FAA's second major challenge is effectively managing its implementation of modernization projects and protecting its airport investments. For example, FAA continues efforts to fully implement the En Route Automation Modernization program, a system for processing flight data initially priced at $2.1 billion. While FAA has overcome some technical problems and fielded ERAM at 16 facilities, ERAM remains at risk of cost and schedule increases as FAA implements the system at the last four facilities, including some of the most complex in the National Airspace System.

To set realistic budgets and expectations for its modernization and infrastructure efforts, FAA needs to take several actions. First, FAA needs to complete an integrated master schedule for NextGen's many interdependent programs to address operational and technical risks and make informed cost and schedule tradeoffs.

Second, FAA must rein in excessive costs on major acquisition contracts. FAA awarded multibillion dollar contracts without resolving differences between the agency's cost estimates and those provided in contractor proposals. This lack of control creates unreal, unreliable budget estimates and unnecessary cost increases.

Third, FAA needs to ensure airport revenues are appropriately spent. Over the past 10 years, we have identified millions of dollars in airport revenue that, contrary to Federal law, were diverted,

used for non-airport purposes or simply lost. Had these revenues been used for airport operations, the airports could have relied less on Federal funding.

As FAA works to control costs, it must not lose sight of its number one priority, ensuring the continued safety of the National Airspace System. One of FAA's key safety issues remains reducing controller errors. FAA statistics show that serious operational errors by controllers are on the rise, including those associated with runway incursions. Improved data collection and analysis would enable FAA to better identify the root causes of these safety risks and mitigate them.

Another important safety issue relates to FAA's implementation of new pilot qualification requirements, a key provision of the Airline Safety Act. FAA is behind schedule in finalizing the highly contested rule for pilots, but still states it will make the final due date of this coming August.

Ongoing aviation advancements such as unmanned aircraft systems have created new safety challenges for FAA. Safely integrating these new systems, which FAA predicts may number roughly 10,000 within the next 5 years, will require new approaches to managing the Nation's airspace.

PREPARED STATEMENT

Madam Chairman, this concludes my prepared statement. I'd be happy to answer any questions you or other members of the subcommittee may have.

Senator MURRAY. Thank you very much.

[The statement follows:]

PREPARED STATEMENT OF HON. CALVIN L. SCOVEL III

Madam Chairman and members of the subcommittee: Thank you for inviting me to testify on the Federal Aviation Administration's (FAA) fiscal year 2014 budget. As you know, FAA strives to maintain safe operation of the National Airspace System (NAS) while ensuring efficiency through modernization efforts such as the Next Generation Air Transportation System (NextGen). The sequestration's mandated budget cuts require agencies across the Federal Government to rethink their priorities and make difficult tradeoffs. FAA is no exception. The audits conducted by my office aim to improve safety—FAA's number one priority—and to control costs, create efficiencies, and assist in establishing priorities.

My testimony today focuses on three significant challenges for FAA: (1) more effectively managing its workforce; (2) managing strategies for NextGen and modernization; and (3) continuing efforts to ensure the safety of the NAS.

IN SUMMARY

Our recent and ongoing work has identified opportunities for FAA to improve the management of its workforce, the agency's largest cost driver. Specifically, FAA can increase the efficiency of its air traffic controller and safety workforce by strengthening its controller training program, revising its controller staffing and scheduling practices, and developing an effective method for determining how many safety inspectors it needs and where they are most needed. At the same time, FAA must protect its investment in its multibillion dollar NextGen efforts and infrastructure improvements that are critical to ensuring the future viability of the NAS. This will require FAA to set priorities and establish sound management strategies to achieve near- and long-term benefits, enhance its contract oversight, and prevent misuse of airport revenue and Federal grant funds. Finally, FAA must not lose sight of its number one priority: ensuring the continued safety of the NAS. One of FAA's key safety issues remains effectively collecting and analyzing data on air traffic controller errors that create air and ground collision risks. FAA also faces new challenges with safely integrating unmanned aircraft systems into the NAS, imple-

menting a safety data sharing system to proactively assess risks, and ensuring effective oversight of its voluntary safety disclosure program for air carriers.

BACKGROUND

FAA's budget funds four accounts: Operations; Facilities and Equipment (F&E); the Airport Improvement Program (AIP); and Research, Engineering, and Development (RE&D).

—Operations is FAA's largest cost driver and funds most of the agency's day-to-day activities, including safety oversight and air traffic control functions. Salaries and benefits for controllers, safety inspectors, and other FAA personnel make up 71 percent of FAA's operations costs.

—F&E funds the agency's NextGen initiatives and other modernization activities such as improving aging infrastructure, power systems, navigational aids, and weather systems.

—AIP funds grants to airports to pay for runway construction and other related projects.

—RE&D provides funds for NextGen and other research areas such as fire research and safety, and aging aircraft.

FAA's total fiscal year 2014 budget request of $15.6 billion represents about a 2-percent decrease from the agency's 2012 budget. However, the 2014 request includes $3 billion in Immediate Transportation Investments spending for AIP and NextGen programs (see table 1). FAA proposes to shift the focus of its AIP account to smaller commercial and general aviation airports and eliminate guaranteed AIP funding for large hub airports. The proposal would also increase the passenger facility charge limit from $4.50 to $8 per enplanement for all eligible airports, giving large hub airports greater flexibility to generate their own revenue.

TABLE 1.—FAA BUDGET, FISCAL YEAR 2012 THROUGH FISCAL YEAR 2014

[Dollars in millions]

Account	2012 actual	2013 continuing resolution annualized [1]	2014 request	Increase/decrease from 2012 to 2014 (Percent)
Operations	$9,653	$9,712	$9,707	0.6
F&E	2,731	2,777	2,778	1.7
AIP	3,350	3,350	2,900	−13.4
RE&D	168	169	166	−1.2
Subtotal	15,902	16,008	15,551	−2.2
Immediate Transportation Investments	.....	.....	3,000	.....
Total	15,902	16,008	18,551	16.7

[1] This amount excludes the $637 million reduction in funding due to the sequestration.

Source: FAA.

Due to sequestration, FAA must reduce its remaining fiscal year 2013 budget by $637 million. The majority of this reduction will be absorbed by the Operations account. FAA expects that cuts to the Operations account will result in the closure of 149 contract towers, and FAA plans to require controllers, technicians, and other employees to take up to 11 unpaid furlough days through the end of September. Most of the remaining reduction will be absorbed by the F&E account. This reduction will require FAA to adjust its cost and schedule baselines for individual NextGen and other modernization programs, which could delay completion of these projects.

FAA HAS OPPORTUNITIES TO MORE EFFECTIVELY MANAGE ITS CONTROLLER AND INSPECTOR WORKFORCE

FAA plans to place thousands of new air traffic controllers at its more than 300 air traffic facilities nationwide—a significant challenge, as new controllers can re-

quire several years of training to become certified at their assigned locations,[1] and each facility has unique operations and air traffic volume. Although the agency has had a major controller training support contract in place since 2008, the contract has experienced cost overruns and has not met its goal to reduce total training times. FAA must also continue in its efforts to address controller workload issues, particularly in terms of improving productivity, which could create cost-savings. Finally, to effectively oversee a dynamic aviation industry, it is critical that FAA place its approximately 4,000 flight standards safety inspectors where they are most needed.

Challenges in FAA's Training Programs and Contract Oversight Jeopardize FAA's Efforts To Ensure a Proficient Controller Workforce

To replace retiring controllers who were hired immediately after the 1981 strike,[2] FAA plans to hire and train more than 11,700 new controllers over the next 10 years.[3] In 2004, we reported that FAA's controller training program was extremely decentralized for such a large national undertaking and that the efficiency and quality of training varied extensively by location. With the large numbers of new controllers entering the workforce and veteran controllers retiring or eligible to retire, FAA must have reliable information on how many certified controllers it needs to effectively manage the NAS. FAA executed a contract to train its new controllers; however, it has not been effectively managed.

FAA's $859 million Air Traffic Controller Optimum Training Solutions (ATCOTS) contract continues to be a significant issue for the agency. FAA awarded the contract in 2008 to provide up to 10 years of controller training support and to assist in modernizing the agency's training program.[4] Key ATCOTS goals include reducing total training costs, reducing training time, and developing training innovations that can be adapted to new technologies—particularly those related to NextGen. However, 4 years into the contract, the goals have not been achieved. For example, between 2009 and 2012, the average training time for newly hired controllers increased 41 percent from 1.9 years to 2.7 years.

In 2010, we reported that the ATCOTS contract faced significant cost overruns, poor procurement practices, and a lack of effective contract oversight.[5] For example, in its first 2 years, the ATCOTS contract exceeded negotiated contract values by $46 million. Our current review continues to show that FAA has not implemented sufficient changes to improve its program and contract oversight. For example, in 2012, after 4 consecutive years of cost overruns (totaling approximately $89 million), FAA chose to extend the ATCOTS contract by 3 years without clearly defining the contract's training requirements or ensuring that it can produce sufficient training innovations to meet its training goals.

Additionally, since awarding the 10 year contract in September 2008, FAA paid the contractor over $31 million in cost incentive fees and award fees that were ineffective at motivating contractor performance. For example, to reduce contract costs, FAA paid the contractor $19 million in cost incentive fees and award fees related to cost containment despite the $89 million in cost overruns. FAA also awarded the contractor over $12 million for meeting performance measures that do not link to important training goals, such as training innovations.

In May 2011, FAA created an Independent Review Panel of industry and academic professionals to evaluate all aspects of how the agency hires, assigns, and trains new controllers. To date, the panel has identified 49 recommendations, many incorporating actions we previously recommended, that could significantly improve FAA's controller hiring and training processes. However, most are in the early stages of development, and timeframes for actual implementation are not yet known.

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[1] New controllers achieve certification on each position as they move through facility training. After they have certified on all positions within their assigned area, they are commissioned as a certified professional controller at that facility.

[2] In 1981, following a period of labor unrest, an overwhelming majority of the air traffic control workforce went on strike on August 3. President Reagan ordered those controllers to return to duty within 48 hours. When those 10,438 striking controllers did not return to work, President Reagan fired them on August 5.

[3] Over the past 5 years, FAA has hired more than 6,600 new controllers.

[4] The ATCOTS contract consists of a 5-year base period, worth $437 million, and two option periods (a 3-year period and a 2-year period) worth $422 million.

[5] *FAA's Air Traffic Controller Optimum Training Solution Program: Sound Contract Management Practices Are Needed To Achieve Program Outcomes* (OIG Report No. AV–2010–126), September 30, 2010. OIG reports are available on our Web site at http://www.oig.dot.gov/.

We plan to issue reports on FAA's ATCOTS contract and air traffic controller facility training later this year and will continue to monitor the agency's cost-saving efforts in these areas.

FAA Could Realize Cost-Savings Through Improved Controller Productivity and Scheduling

Since 1998, FAA has introduced a series of initiatives intended to increase controller productivity and reduce operating costs. These initiatives include eliminating alternate work schedules, matching controller staffing to facility workload, reducing operational overtime costs, and developing an automated official time reporting system. However, it is unclear whether these initiatives are achieving the anticipated productivity gains and cost-savings. FAA data suggest that its overall staffing may not be optimal. Since 2000, total air traffic operations have declined by 23 percent, while the total number of controllers slightly increased. We are currently conducting a review of FAA's controller productivity initiatives.

As directed by the FAA Modernization and Reform Act of 2012,[6] we are also conducting a review of the cost impacts of new FAA controller schedules—developed in response to concerns about the impact of FAA scheduling practices, particularly during overnight shifts, on controller performance and air traffic safety. While most of FAA's new controller scheduling policies have not significantly affected costs, our ongoing work indicates the agency could realize some cost-savings through better scheduling. For example, 72 facilities that do not meet the agency's minimum traffic guidelines for continuous overnight operations continue to have a minimum of two controllers during the midnight shift. Reducing air traffic control services at these facilities during a portion of or the entire midnight shift could reduce operating costs. However, FAA has not yet calculated the potential savings. We expect to report on our reviews of FAA's controller productivity and scheduling later this year.

FAA Has Not Developed a Reliable Method for Determining Its Safety Inspector Workforce Needs

FAA currently employs approximately 4,000 flight standards safety inspectors who oversee all facets of aviation safety, from general aviation to air carrier operations. However, the agency has not determined where these resources are most needed or the extent to which there may be a shortfall in its inspector workforce. A 2006 National Research Council (NRC) study,[7] conducted at the direction of Congress, found that FAA's methodology for allocating aviation safety inspector resources was ineffective. NRC recommended that FAA develop a new approach, and, in response, FAA introduced a new staffing model in October 2009.

We have evaluated the model as part of an ongoing audit of inspector staffing, as requested by Congress.[8] Thus far, FAA officials are not confident in the accuracy of the model's staffing projections and therefore have not fully relied on the number projected by the model when developing plans and annual budget requests. As of January 2013, FAA had reported the results of its staffing model six times, with each iteration showing very different nationwide employee shortages (see figure 1).[9]

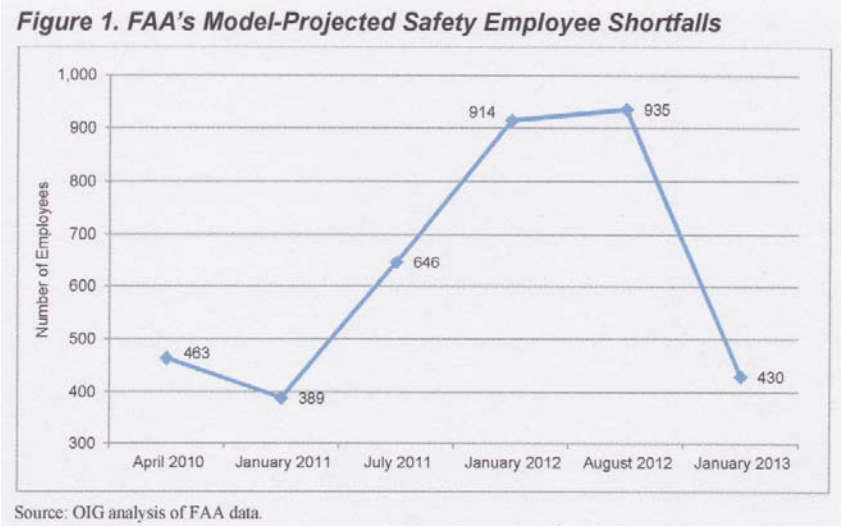
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[6] Public Law 112–95.

[7] "Staffing Standards for Aviation Safety Inspectors," September 20, 2006.

[8] Congress directed our office to review inspector and analyst staffing issues in section 205 of the Airline Safety and FAA Extension Act of 2010, Public Law 111–216, enacted August 1, 2010.

[9] Based on our analysis of FAA data, these fluctuations appear to be caused by a number of underlying issues such as inaccurate and outdated data.



FAA is working to further refine the model so that it more effectively identifies the number of inspectors needed and where they should be placed to address the greatest safety risks and get the best return on investment. We expect to issue our report on inspector staffing later this year.

SOUND MANAGEMENT STRATEGIES ARE KEY TO THE COST-EFFECTIVE IMPLEMENTATION OF FAA'S MODERNIZATION AND INFRASTRUCTURE EFFORTS

FAA has numerous efforts underway to modernize the air transportation system and upgrade infrastructure—most notably its multibillion dollar NextGen transformational programs.[10] The success of these efforts depends on the agency's ability to set priorities, control costs, deliver benefits, and maintain stakeholder support. However, FAA has been challenged to maximize near-term benefits through its metroplex initiative, while addressing cost and schedule risks related to implementing critical automation systems such as the En Route Automation Modernization (ERAM) program. In addition, FAA has not yet developed an integrated master schedule to help advance and prioritize key transformational programs. Other challenges include improving contract oversight and management, upgrading aging air traffic control facilities, and protecting airport investments.

Integrating New Performance-Based Navigation Routes Is Critical To Maximizing Near-Term Benefits and Ensuring User Support

In 2010, FAA launched its metroplex initiative—a 7-year effort to improve the flow of traffic and efficiency at congested airports in 13 major metropolitan areas. A key part of this effort and a stepping stone for NextGen is the introduction of new performance-based navigation (PBN) procedures, such as Area Navigation (RNAV) and Required Navigation Performance (RNP),[11] which can provide significant near-term benefits such as more direct flight paths, improved on-time aircraft arrival rates, greater fuel savings, and reduced aircraft noise. FAA has completed initial studies or begun design work at 8 of the 13 metroplex locations but continues to face challenges with shifting from planning to implementation. FAA has extended the expected completion date for all metroplex sites by 15 months to September 2017 after determining that its initial schedule was too aggressive.

While the metroplex approach is a step in the right direction to achieving the near-term benefits of reduced congestion, we reported in August 2012 that industry

[10] FAA's transformational programs, defined as programs directly related to the delivery of NextGen capabilities, will fundamentally change the NAS by enhancing communications, improving the tracking of aircraft, and revamping overall air traffic management.

[11] RNAV is a method of navigation in which aircraft use avionics, such as Global Positioning Systems, to fly any desired flight path without the limitations imposed by ground-based navigation systems. RNP is a form of RNAV that adds on-board monitoring and alerting capabilities for pilots, thereby allowing aircraft to fly more precise flight paths.

representatives were concerned that FAA had not yet integrated efforts from other related initiatives, such as better managing surface operations.[12] In addition, many airspace users that are equipped with advanced avionics would like more advanced PBN procedures than FAA's current efforts provide—specifically, those that regularly allow for more precise and curved approaches. We also identified a number of barriers to FAA's metroplex effort, including the need to work across diverse agency lines of business, update policies, streamline the process for implementing new flight procedures, apply environmental regulations, upgrade controller automation tools, and train controllers on new advanced procedures. FAA is currently working to address our recommendations, including developing milestones for a more integrated metroplex approach and addressing barriers in a timely manner.

FAA has several efforts underway to identify and resolve obstacles to PBN use. For example, FAA has tasked MITRE to obtain and analyze data to measure the use of PBN procedures and quantify their benefits. While our analysis of MITRE's preliminary data shows high RNP use at some small- to medium-sized airports, such as Oakland, overall RNP usage is low, particularly at busy metroplex airports, such as New York.[13] According to MITRE, one of the obstacles to using the procedures in busy metroplex locations is the lack of controller tools to manage mixed operations—that is merging aircraft using straight-in approaches with those on curved paths.[14] It is important for FAA to use MITRE's data to determine why procedures are not being used and what it will take to obtain benefits. FAA currently has a team developing an action plan to address obstacles, such as the need to update policies and procedures to allow PBN use, and expects to issue a report later this year. FAA is also working to streamline its process for implementing new procedures in response to recommendations from an internal FAA review—the NAV Lean project. However, FAA has only implemented 3 of the 21 recommendations thus far and does not expect to complete all recommendations until September 2015.

Despite Progress, FAA Faces Programmatic and Cost Risks With Automation Systems in the Critical Path of NextGen

FAA's goals for NextGen ultimately depend on the success of its ongoing efforts to deploy ERAM—a $2.1 billion system for processing flight data. Without ERAM, the key benefits of FAA's transformational programs, such as new satellite-based surveillance systems and data communications for controllers and pilots, will not be possible. FAA originally planned to complete ERAM by the end of 2010, but significant software problems impacted the system's ability to safely manage and separate aircraft and raised questions as to what capabilities ERAM will ultimately deliver. As a result, FAA rebaselined the program in June 2011, pushing its expected completion to 2014 and increasing cost estimates by $330 million.

FAA is making considerable progress toward getting ERAM on track. The agency is now using ERAM at 16 of 20 sites either on a full- or part-time basis—a significant step forward given the extensive problems at the two initial sites. FAA plans for all 20 sites to achieve full operational capability and to decommission[15] the legacy system by August 2014. However, as FAA deploys ERAM to the Nation's busiest facilities, such as New York and Washington, DC, it expects to identify new problems that could impact cost and schedule. FAA is currently spending about $12 million a month on the ERAM F&E portion of the contract, excluding NextGen efforts funded through the ERAM contract. If the current contract burn rate does not decline significantly, the agency will need additional funds to complete this stage of the program.[16]

Moreover, controllers and experts continue to raise concerns about ERAM's capabilities. While these issues are not expected to delay ERAM's 2014 implementation, they will need to be addressed for the system to support NextGen initiatives.

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[12] *Challenges With Implementing Near-Term NextGen Capabilities at Congested Airports Could Delay Benefits* (OIG Report No. AV–2012–167), August 1, 2012.

[13] PBN usage data is as of January 2013. MITRE has ongoing efforts to update the data and improve the formulas. MITRE is only capturing data for RNP procedures with curved approaches because it cannot distinguish RNP procedures with straight-in approaches from conventional procedures.

[14] According to MITRE, other causal factors, such as weather or operational conditions that do not necessitate the use of PBN instrument approaches, can also affect RNP use.

[15] Decommissioning involves the disconnection, removal, and disposal of the HOST computer system once ERAM has been declared operationally ready at a site.

[16] The Office of Management and Budget (OMB) approved shifting $44 million of ERAM O&M funding to F&E funding, increasing total ERAM F&E funding to $374 million. As of February 2013, FAA had spent a total of $241.86 million (F&E)—about 64.7 percent of the $374 million in F&E funding allocated since the June 2011 rebaseline.

—*Flight Plan Trajectory Modeler*.—This is an ERAM capability that models aircraft flight paths and is used to predict conflicts and ensure accurate handoffs between controllers and other facilities. However, the modeler software has often required adjustments to change the flight plan trajectory to ensure accurate handoffs. According to controllers, improvements are needed in order to support current operations and NextGen capabilities that use trajectory-based operations.[17]

—*Aircraft Tracking and Sensor Fusion*.—This capability allows ERAM to integrate—or "fuse"—multiple radars and satellite-based information for controllers. However, thus far, controllers have not been able to take advantage of this improved capability because of tracking issues. A MITRE analysis found that the ERAM tracker will require adjustments to use the Automatic Dependent Surveillance-Broadcast system (ADS–B)[18] and radar together to manage air traffic. Until these issues are addressed, it is unlikely FAA will be able to reduce separation between aircraft at high altitudes.

Similar to ERAM, FAA's Terminal Automation Modernization/Replacement (TAMR) effort is on the critical path to NextGen. FAA's TAMR program aims to modernize or replace all of the automation systems that controllers rely on to manage traffic at terminal facilities with a single automation platform—the Standard Terminal Automation Replacement System (STARS) system. If effectively implemented, TAMR is expected to reduce agency costs and facilitate the implementation of NextGen capabilities.

TAMR currently involves modernizing automation systems at 11 terminal facilities, 7 of which are the largest and busiest in the Nation. FAA estimates this effort will cost $438 million and be completed between 2015 and 2017. However, the agency faces significant cost, schedule, and technical risks in this effort. Specifically, FAA has yet to identify and finalize all "gaps"—that is, the software and hardware requirements that are needed to successfully replace the existing automation system[19] with STARS. Finalizing these gaps requires extensive software development and testing—a lengthy and potentially costly process should issues arise in testing. FAA is currently developing software to address 94 gaps but anticipates identifying more gaps once it begins transitioning to STARS at the busiest facilities. Moreover, because full STARS capability at the 11 sites is still years away, FAA continues to add new capabilities to existing systems at select facilities to support air traffic operations. The longer FAA must maintain and update existing systems at these sites, the greater the implementation and cost risk because FAA will have to add the same new capabilities to STARS to maintain operations at the sites. To improve FAA's effectiveness in achieving terminal modernization, we made a number of recommendations to better and more cost efficiently manage this effort. We anticipate receiving FAA's response and issuing our final report soon.

FAA Lacks an Integrated Master Schedule To Manage and Prioritize Key NextGen Programs

Setting realistic plans, budgets, and expectations for key NextGen programs is critical to controlling NextGen costs. FAA now spends almost $1 billion annually on NextGen efforts and plans to spend $2.4 billion between 2013 and 2017 on the six transformational programs that will provide NextGen's foundational technologies and infrastructure.[20] These include ADS–B, with a current approved cost of $2.7 billion, and Data Communications, with a current approved cost of $741.5 million.

However, FAA has yet to complete an integrated master schedule to manage implementation of these six programs—many of which are interdependent. Without a master schedule, FAA will be challenged to: (1) fully address operational, technical, and programmatic risks; (2) prioritize and make informed tradeoffs for programs' costs and schedules; and (3) determine what capabilities should be delivered first. In response to a recommendation we made in April 2012,[21] FAA is working on the integrated master schedule and expects to have it completed by December 2013.

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[17] Trajectory-based operations focus on more precisely managing aircraft from departure to arrival with the benefits of reduced fuel consumption, lower operating costs, and reduced emissions.

[18] ADS–B, one of NextGen's transformation programs, is a satellite-based surveillance technology that combines the use of aircraft avionics and ground-based systems.

[19] Common Automated Radar Terminal System (CARTS–IIIE) automation systems currently exist at the 11 large terminal facilities.

[20] These six programs are ADS–B, System Wide Information Management, Data Communications, NextGen Network Enabled Weather, NAS Voice System, and Collaborative Air Traffic Management Technologies.

[21] *Status of Transformational Programs and Risks to Achieving NextGen Goals* (OIG Report No. AV–2012–094), April 23, 2012.

Ineffective Planning and Oversight Have Contributed to Cost Overruns and Delays for Efforts Needed To Support NextGen

Since 2005, FAA has experienced cost overruns, schedule delays, or both on half of its major air traffic control programs, including ERAM. Weaknesses in FAA's contract planning have hindered the agency's ability to efficiently and effectively advance programs and protect its investments. For example, when designing ERAM's contract structure, FAA did not fully adopt best practices for information technology (IT) acquisitions—such as modular contracting, which calls for dividing a large contract into manageable contract segments delivered in shorter increments. In addition, ERAM's cost incentive fee did not motivate the contractor to stay below cost targets because FAA simply increased the target costs as requirements grew. At the time of our review, FAA paid the contractor over $150 million in cost incentives fees even though ERAM costs exceeded the budget by at least $330 million. Further, FAA did not detect or mitigate significant risks until almost 2 years after software problems surfaced at a key test site. In response to our recommendations, FAA has modified the ERAM contract to implement a more modular structure, revised incentives for new software releases, and improved ERAM's risk management process.[22]

FAA has also awarded contracts without resolving differences between the agency's cost estimates and those provided in contractor proposals, resulting in unreliable budget estimates. For example, to accomplish NextGen and efforts related to maintaining the NAS, FAA awarded seven Systems Engineering 2020 (SE–2020) contracts for technical and professional support services, which have a cumulative maximum value of $7.3 billion—the largest award in FAA history. However, when FAA awarded these SE–2020 contracts in 2010, it included 18 million more labor hours than needed, overstating potential contract costs by $2 billion. As a result, FAA cannot be sure that the contract's cost baseline is an accurate benchmark for monitoring costs. For FAA's ATCOTS contract, FAA did not resolve the 29 percent difference between the contractor's proposed costs and FAA's independent Government cost estimate. In addition, the contract experienced a 35-percent cost increase during the first contract year due to underestimating controller training requirements.

FAA's problems in these areas are further exacerbated by weaknesses in its review and approval process for major acquisitions. OMB requires Federal agencies to monitor and evaluate performance of IT investments through a capital planning and investment control process. In response, FAA's Joint Resources Council (JRC) was established to ensure capital investments fulfill mission priorities and maximize resources. However, JRC sometimes lacks complete information when making investment decisions. Further, FAA does not consistently follow the JRC approval and oversight process. As a result, FAA risks making investment decisions with incomplete information, which could jeopardize the success of critical FAA programs. For example, since 2005, FAA has experienced cost overruns, schedule delays, or both on 7 of its 14 major air traffic control IT programs, including the Wide Area Augmentation System program, which exceeded original cost estimates by $2 billion. FAA has established a new control group within its Program Management Office that, once appropriately staffed, will begin to assess program planning documentation.

FAA Must Address Key Issues To Achieve Potential Cost Savings Through Facility Realignments and Consolidations

A critical—and costly—step in FAA's NextGen effort is the extent to which it realigns and consolidates its aging infrastructure. To sustain its current facility infrastructure, in fiscal year 2014, FAA plans to spend $125 million to replace or improve its terminal radar approach control (TRACON) facilities and air traffic control towers, $53 million to maintain en route centers, and $85 million to sustain electrical power systems. The average age of an en route center is 51 years, while the average age of a TRACON is 29 years. Moreover, many of these facilities are in poor or fair condition, and the infrastructure at some facilities cannot support NextGen and other modernization initiatives.

FAA's current plans call for an integrated control facility in the New York metropolitan area—a significant step in achieving operational efficiencies. However, to successfully realign and consolidate facilities, FAA needs to make informed decisions regarding cost, schedule, technical capabilities, and the impact on the aviation workforce. In July 2012, we recommended that FAA develop and regularly update comprehensive cost estimates for construction, equipment, increased salaries, relocation

[22] *Weaknesses in Program and Contract Management Contribute to ERAM Delays and Put Other NextGen Initiatives at Risk* (OIG Report No. AV–2012–179), September 13, 2012.

expenses, and training for its consolidation effort.[23] As FAA's plans evolve, addressing these issues early will better position the agency to achieve potential cost savings and NextGen benefits. FAA expects to provide a detailed cost estimate for the integrated New York facility by the end of 2014. To completely implement our recommendation, FAA will need to produce detailed financial information for consolidating facilities in other locations.

Further Actions Are Needed To Protect Federal Investment in Airport Infrastructure

FAA projects that U.S. passenger traffic will grow by 2.6 percent annually in the next 5 years, and that by 2033 there will be 1.15 billion passengers. Ensuring enough capacity at the Nation's airports is essential to meeting this demand, reducing delays, and realizing the full benefits of NextGen. However, NextGen alone will not address capacity constraints at some airports. While FAA has made progress in overseeing airport infrastructure improvements at our Nation's airports,[24] including new runways, the agency must ensure that current and planned runway projects and their corresponding capacity-enhancing airspace changes remain on schedule. Moreover, FAA needs to improve its grant oversight to protect its significant investments in these projects.

FAA is pursuing several airspace redesign projects nationwide—including major efforts to revamp airspace in the Atlanta, Chicago, and New York-New Jersey-Philadelphia areas. To ensure runways at these sites have sufficient capacity to accommodate the additional air traffic, FAA must synchronize its airspace redesign and runway efforts, as it did at the Chicago O'Hare International Airport. Completing a new runway and extending an existing runway in 2008[25] allowed FAA's airspace redesign efforts in that area to move forward.

However, the remaining infrastructure and related airspace projects for O'Hare, as well as the planned infrastructure and related airspace projects for the Philadelphia International Airport, are at risk due to the uncertain future of these capacity enhancement programs (see table 2). Although FAA has committed nearly $1.4 billion in AIP funds for the next 20 years—with annual outlays of more than $60 million—the agency faces multiple implementation challenges. To protect these investments and ensure sufficient capacity, FAA needs to work closely with airports, airlines, and other stakeholders to resolve differences and make decisions about these projects so they can move forward.

TABLE 2.—STATUS OF MAJOR NEW RUNWAY PROJECTS

[Dollars in millions]

Airport	Phase	Estimated completion date	Total cost estimate
Chicago O'Hare:			
Runway 10C/28C	Construction	September 2013	$1,290
Runway 9R/27L[1]	Design[2]	2020	520
Runway 9C/27C	Design[2]	2020	1,130
Runway 10R/28L	Construction	December 2015	516
Philadelphia: Runway 9R/27L, Runway 8/26[1], Runway 9R/27L[1]	Some Site Prep[2 3]	TBD	5,200

[1] Extension of existing runway.
[2] Funding for construction has not been secured and is subject to ongoing negotiations with the airlines.
[3] Extension of runway 9R/27L (which will be renamed 9C/27C when the new runway is built) is in the design phase with a 2015 estimated completion date. Due to lack of funding, completion dates for the remaining projects have yet to be determined.

Insufficient oversight of airport revenue and AIP grants further jeopardizes FAA's investments. Over the past 10 years, we have identified nearly $376 million in airport revenue that was illegally diverted, used for non-airport purposes, or was simply lost. Had these revenues been used for airport operations, the airports would have been more self-sufficient and less reliant on Federal funding. While FAA conducts airport revenue reviews, the reviews have been limited to a few airports a year. In general, FAA relies primarily on three oversight methods that have proven inadequate to prevent the diversion and loss of valuable airport revenue: (1) review

[23] *The Success of FAA's Long-Term Plan for Air Traffic Facility Realignments and Consolidations Depends on Addressing Key Technical, Financial, and Workforce Challenges* (OIG Report No. AV–2012–151), July 17, 2012.

[24] According to FAA, since the start of fiscal year 2000, 24 airfield projects have opened at 20 major airports. These include 16 new runways, 3 taxiways, 3 runway extensions, 1 airfield reconfiguration completed (included relocating a runway and constructing a new center taxiway), and 1 airfield reconfiguration to be completed this year (includes a runway extension and a new runway that have been completed, and another runway due to open in October 2013).

[25] Infrastructure projects as part of Phase 1 of the O'Hare Modernization Program.

of airport sponsors' annual revenue use reports; (2) single audit reports; and (3) third-party complaints. At the request of several House members from California, we are currently conducting an audit on FAA's oversight of Los Angeles International Airport revenue use.

Finally, reducing and recovering improper AIP grant payments has been a long-standing challenge for FAA. In 2010, we reported that FAA had made an estimated $31 million in recoverable improper payments [26] during fiscal year 2008 and had not detected them. More recently, we reported that FAA's oversight was insufficient to prevent or detect more than $1.4 million in recoverable improper American Recovery and Reinvestment Act of 2009 (ARRA) grant payments. In particular, we found that San Francisco International Airport officials improperly billed ARRA for over $832,000 for unapproved taxiway and drainage work, as well as ineligible survey equipment. To address this challenge, FAA began implementing a new risk-based grant oversight process and an electronic grant payment system in 2012. However, it is too soon to know whether this additional step will significantly improve FAA's ability to prevent or detect future improper payments.

OPPORTUNITIES REMAIN TO BETTER ENSURE THE SAFETY OF THE NATIONAL AIRSPACE SYSTEM

While FAA works to achieve efficiencies in its operations, programs, and overall costs, it must continue to address ongoing safety concerns. FAA has several opportunities to enhance safety by improving its collection and analyses of safety data, including data on air traffic controller errors that create air and ground collision risks. FAA will need to enhance its oversight of aircraft repair stations and implement key provisions of the Airline Safety Act related to pilot safety. FAA also faces challenges with safely integrating unmanned aircraft into the NAS, developing a safety information sharing system to proactively assess risk, and improving its voluntary safety disclosure program for air carriers.

Data Collection and Analysis Enhancements Are Needed To Identify and Mitigate the Root Causes of Separation Losses

A top priority for FAA is to accurately count operational errors—events where controllers do not maintain safe separation between aircraft—and identify trends that contribute to them. FAA statistics indicate that reported operational errors rose by 53 percent between fiscal years 2009 and 2010. While operational errors remained at these levels during fiscal years 2010 and 2011, FAA reports that the most serious reported errors continued to rise by 49 percent from fiscal year 2009 to fiscal year 2011 (from 37 to 55, respectively).

In January 2012, FAA issued new policies and procedures for collecting, investigating, and reporting separation losses.[27] However, their effectiveness is limited by incomplete data and implementation challenges. FAA lacks an accurate baseline on the number of separation losses due in part to its limited review of Traffic Analysis and Review Program (TARP) data [28] and exclusion of some potential operational errors reported under the Air Traffic Safety Action Program (ATSAP) [29] from its official count. At the time of our ATSAP review last year, approximately 50 percent of all ATSAP event reports [30] were classified as "unknown," and therefore some errors may have been excluded.[31] Further, as we reported last month, FAA does not analyze and report all separation losses automatically flagged by TARP. Instead, FAA investigates losses of separation identified by TARP when aircraft come within less than 70 percent of the required separation distance.

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[26] In 2002, Congress passed the Improper Payments Information Act (IPIA), providing a framework for agencies to use in testing for improper payments, identifying their causes, and implementing solutions to reduce them. In August 2006, OMB established detailed requirements for complying with IPIA. OMB further clarified that improper payments include the following payments to ineligible recipients: duplicate payments, payments in incorrect amounts, payments for ineligible services or services not received, or payments having insufficient documentation.

[27] Losses of separation occur when aircraft do not maintain the minimum required distance apart. Most losses of separation are classified as either an operational error (if the controller's actions caused the loss) or a pilot deviation (if the pilot's actions caused the loss).

[28] TARP is an automated system that detects losses of separation at air traffic terminal facilities.

[29] ATSAP is a voluntary, non-punitive program in which controllers can self-report safety incidents and concerns.

[30] Event reports identify actual or potential losses of separation, including operational errors, or other situations that may degrade air traffic safety.

[31] FAA changed how it categorizes event reports in January 2012. However, the committees that review ATSAP reports still do not contact facilities if they believe an event is unknown to management.

In July 2012, we reported a number of management issues with ATSAP that the agency must address to correct known deficiencies and realize the program's full potential. These include a lack of formal processes to review ATSAP committee decisions on errors and enforce key program guidelines and requirements. Failure to address these issues not only undermines efforts to improve NAS safety but also may lead to the perception that ATSAP is an amnesty program that automatically accepts reports of serious incidents, regardless of whether they properly qualify under the FAA directive establishing the program.

Runway Incursions Continue To Increase

Runway incursions—potential ground collisions—are a key safety concern for FAA that requires heightened attention at all levels of the agency. As we noted in July 2010,[32] the number of the most serious runway incursions—incidents in which a collision was barely avoided—decreased after runway safety initiatives detailed in FAA's August 2007 Call to Action plan were implemented.[33] However, shortly after our 2010 report, the trend reversed dramatically. Between fiscal years 2010 and 2012, reported runway incursions increased about 19 percent, and serious runway incursions tripled (see figure 2)—despite the fact that total air traffic operations declined by 1 percent between fiscal years 2011 and 2012. In addition, for the period of October through December 2012, total incursions increased by approximately 20 percent compared to the same period in 2011. As a result of these concerns, we plan to initiate another review of FAA's Runway Safety Program later this year.

Figure 2. Runway Incursions, Fiscal Years 2006 Through 2012



Source: OIG analysis of FAA data.

To help reverse these trends, FAA deployed the Airport Surface Detection Equipment-Model X (ASDE–X) system at 35 major airports in fiscal year 2011, at a cost of approximately $550 million. ASDE–X enhances runway safety by providing detailed information to air traffic controllers regarding aircraft operations on runways and taxiways. However, ASDE–X does not directly alert pilots, as recommended by the National Transportation Safety Board (NTSB) in 2000. To address this shortcoming, FAA plans to integrate the use of ASDE–X with three other systems—Runway Status Lights (RWSL), ADS–B, and In-Cockpit Moving Map Displays. Integrating various systems to improve surface safety requires establishing requirements for technical upgrades, validating system performance and integrity, and determining whether ASDE–X capabilities can meet FAA's goals for increasing safety and capacity. We are currently assessing FAA's progress in integrating ASDE–X with other technologies such as RWSL and ADS–B to improve runway safety.

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[32] *Review of FAA's Call to Action Plan for Runway Safety* (OIG Report No. AV–2010–071), July 21, 2010.

[33] Specifically, these incidents declined from 25 reported in fiscal year 2008 to 6 reported in fiscal year 2010.

Oversight of Repair Stations Remains a Concern

According to FAA, there are nearly 4,800 FAA-certificated repair stations worldwide that perform maintenance for U.S.-registered aircraft. Forecasts show that the maintenance, repair, and overhaul industry will grow annually by 4.4 percent over the next 10 years, yielding a market value of between $50 billion to $65 billion for this segment of the aviation industry. These upward trends are expected to continue as airlines look to cut maintenance costs and increase profitability. However, since 2003, we have recommended that FAA strengthen its oversight of air carriers' contracted maintenance providers by developing a comprehensive, standardized approach to repair station oversight and targeting inspector resources based on risk.

In 2007, FAA implemented a new risk-based system to target its surveillance of repair stations. However, our ongoing review indicates that inspectors continue to complete mandatory inspections instead of targeting resources to where they are needed based on risk. Additionally, some inspectors do not use the risk assessment process at all; those that do are hindered in their ability to assess risk, due in part to limitations in data availability and quality. As a result, FAA has been ineffective at conducting risk-based oversight.

FAA's surveillance at foreign and domestic repair stations also lacks the rigor needed to identify deficiencies and verify they have been addressed. Systemic problems we identified during our 2003 review—such as inadequate mechanic training, outdated tool calibration checks, and inaccurate work order documentation—persist at the repair stations we recently visited. FAA guidance requires inspectors to review these specific areas during repair station inspections, but inspectors overlooked these types of deficiencies.

Given U.S. air carriers' continued reliance on repair stations to perform their aircraft maintenance domestically and abroad, it is imperative that FAA improve its risk-based system to provide more rigorous oversight of this industry. We plan to issue our report on FAA's oversight of repair stations this month.

FAA Faces Challenges in Implementing Key Pilot-Related Provisions of the Airline Safety Act

The fatal Colgan Air crash in 2009 raised concerns about a number of pilot performance issues, which culminated in the Airline Safety and FAA Extension Act of 2010.[34] Since the act's passage, FAA has made important progress in implementing many of the act's requirements, such as advancing voluntary safety programs and improving pilot rest requirements. However, FAA has not met the act's timelines for updating pilot training standards, implementing pilot mentoring and leadership programs, or establishing safety management systems.

In addition, FAA missed the act's deadline to substantially raise airline pilot qualifications by August 2012. The act mandates that all part 121 pilots obtain an Airline Transport Pilot certificate,[35] which requires 1,500 flight hours—six times the current minimum of 250 hours needed for a commercial pilot's certificate. Although FAA's proposed rule would provide some flexibility in meeting these requirements for pilots with relevant degrees or military flight experience, air carrier representatives remain opposed to the new requirement, contending that the quality and type of flying experience should be weighted more heavily than the number of flight hours. However, if FAA does not issue its final rule, the act's requirements will automatically go into effect for air carriers in August 2013, and FAA must ensure that carriers make the necessary adjustments to their pilot training and qualification programs.

FAA has also been challenged to develop an act-required pilot records database to enhance the screening process for newly hired pilots. For example, FAA needs to determine how to incorporate data from FAA, air carriers, and the National Driver Registry in a way that is accessible for air carriers to review during the pilot hiring process. The act did not establish a milestone for when the database should be completed, and the agency has yet to make key long-term implementation decisions.

FAA's Safety Oversight Role Continues To Expand as New Technologies and Programs Are Introduced Into the NAS

Over the next several years, FAA will be challenged by the introduction of unmanned aircraft, new integrated data systems for proactively identifying risk, and further use of voluntary disclosure programs.

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[34] Airline Safety and Federal Aviation Administration Extension Act of 2010, Public Law 111–216, (2010).

[35] An Airline Transport Pilot (ATP) Certificate is the highest level of pilot certification. Pilots certified as ATP are authorized to act as pilot-in-command of an aircraft in commercial airline service. Additional eligibility requirements are contained in 14 CFR 61.153.

—*Unmanned Aircraft Systems (UAS).*—FAA predicts there will be roughly 10,000 active UAS in the United States in 5 years, with more than $89 billion in worldwide UAS spending over the next 10 years. However, FAA has approved these operations on a limited, case-by-case basis, due in part to the safety risks associated with UAS integration into the NAS. While the capabilities of unmanned aircraft have significantly improved, they have a limited ability to detect, sense, and avoid other air traffic. Given the growing interest and potential safety issues associated with UAS flights, Congress recently directed the Secretary of Transportation, through the FAA Modernization and Reform Act of 2012, to develop a comprehensive plan for integrating UAS into the NAS no later than September 30, 2015. At the request of the Chairmen and Ranking Members of the Senate Commerce Committee and the House Committee on Transportation and Infrastructure, as well as their Aviation subcommittees, we are currently assessing FAA's progress in integrating UAS into the NAS. We expect to issue a report later this year.

—*Aviation Safety Information Analysis and Sharing (ASIAS).*—In 2007, FAA implemented ASIAS to collect and analyze data from multiple databases and proactively identify and address safety risks. ASIAS enables authorized users to obtain data from confidential databases—including voluntary safety programs such as the Flight Operational Quality Assurance program and the Aviation Safety Action Program—as well as from publicly available data sources such as NTSB's Accident and Incident Reports database. However, access to ASIAS data for FAA and industry representatives has been limited due to airline proprietary concerns.

In the Airline Safety and FAA Extension Act of 2010, Congress directed our office to assess FAA's ability to establish a comprehensive information repository that can accommodate multiple data sources and be accessible to FAA aviation safety inspectors and analysts who oversee air carriers. Accordingly, we are currently assessing FAA's progress in implementing ASIAS, its process and plan for allowing system access at both field and headquarters levels, and its use of ASIAS data to assist in commercial air carrier safety oversight. We expect to issue our report later this year.

—*Voluntary Disclosure Reporting Program (VDRP).*—As mandated in the FAA Modernization and Reform Act of 2012, we are conducting a review of VDRP, a program that allows air carriers to voluntarily report adverse safety issues to FAA without fear of enforcement actions, provided that carriers develop comprehensive solutions to identified safety issues. As part of this review, we are examining whether FAA ensures reports meet VDRP requirements, including the development and implementation of corrective actions, and whether the agency uses VDRP data to identify safety risks.

CONCLUSION

FAA faces many difficult decisions in the months ahead. To resolve the complex issues we identified, the agency must think strategically to prioritize those programs that can achieve the greatest benefits in the most cost efficient and effective manner possible. At the same time, FAA needs to protect its investments and assets that are vulnerable to misuse and abuse, while remaining focused on safety. Fully implementing our recommendations would better position FAA to control costs and create efficiencies as it works to enhance operations, successfully implement key programs, and address safety concerns. We will continue to work with FAA to ensure it meets its mission while protecting taxpayer dollars.

Madam Chairman, this concludes my prepared statement. I would be happy to address any questions that you or other members of the subcommittee may have.

BUDGET CONTROL ACT/CONTRACT TOWER PROGRAM/FURLOUGHS

Senator MURRAY. Let me begin by asking a question about FAA's contract tower program. Under the FAA's original plan to comply with sequestration, the FAA said they expected to save between $40 million and $50 million by shutting down 173 contract towers at soon as the first week in April. But under the FAA's most recent plans, 149 towers are expected to close, and my understanding is that that will start June 15.

Can you explain to us, Mr. Huerta, what the latest estimate is of how much will be saved by closing down those towers, and

whether those savings will significantly reduce the number of furloughs at the FAA?

Mr. HUERTA. Thank you, Madam Chairman. As we look at the need to achieve the savings of $637 million that you noted in your opening statement, we have to look both at our contract expenditures as well as our pay and benefit expenditures. Our current estimate of savings from contract towers that we're going to be able to achieve based on the June 15 closure date is approximately $25 million.

The savings from furlough days—we have notified our employees that they should expect to be furloughed for up to 11 days.

Senator MURRAY. Between now and September 30?

Mr. HUERTA. Between now and September 30. That represents 1 day per 2-week pay period between now and the end of our fiscal year. The total savings associated from those furloughs are slightly in excess of $200 million. We have had an extensive effort, and it continues, to evaluate and review our ongoing expenditures, our contract expenditures, and our information technology (IT) expenditures, to find additional areas of savings.

We have significantly reduced travel by 30 percent, limiting it to operational travel, for example, when we have to send someone to fix a piece of equipment that might have become inoperative. Likewise, we have projected, and we expect to achieve, savings in our information technology infrastructure of approximately $35 million.

We have focused on reducing our costs associated with training. We have canceled a new training program for new controllers at the FAA Academy for the summer in order to focus our resources on critical personnel needed to operate the National Airspace System.

It's with great regret that we have to look at closing lower activity facilities while at the same time reducing hours available for our employees. But as we all know, the sequester represents a very dramatic and very blunt instrument in terms of how we find reductions in expenditures. But in order to achieve them, we have to take the actions that we've talked about.

CONTRACT TOWERS

Senator MURRAY. Well, as you know, there's a lot of interest in protecting the contract towers in 2014. What will it take to get those contract towers back up and running in fiscal year 2014?

Mr. HUERTA. It depends on the nature of the specific contract tower. We've heard from approximately 50 of the 149 airport operators that they are exploring opportunities for local funding of the expense of the contract towers for some period of time. If that were the case for those facilities, it would simply be a change in who is paying the cost.

We have been negotiating with them an orderly handoff so that they can take over the facility and assume its cost when funding from the FAA would cease on June 15. Should the financial picture change in 2014, the handoff would simply work as smoothly going the other direction.

Senator MURRAY. And what would be the cost of that?

Mr. HUERTA. Well, the cost is they will continue to operate, and so it essentially is just a question of who pays. As it relates to a

facility that may elect to—or for whatever reason it might be necessary to close, then what we would need to engage in is a process to hire controllers, recertify controllers, and get them back up to speed in operating that airspace. That would represent an expenditure of both time and money in order to make that happen.

FURLOUGHS

Senator MURRAY. So do you think it makes sense to close some down for the summer?

Mr. HUERTA. We have very few choices, and as we've talked about repeatedly, we're looking at a series of bad options to choose from. The sequester gives us few options but to achieve the required savings and to achieve them in this year.

Senator MURRAY. So let's talk about the furloughs, because we're hearing a lot about that.

Mr. HUERTA. Sure.

Senator MURRAY. You said up to 11 days. How many employees?

Mr. HUERTA. It affects 47,000 of our employees, which is most of them. The only employees that are exempt under the sequester legislation are those in our Airport Improvement Program.

Senator MURRAY. Right. So that includes air traffic controllers, safety inspectors, and we are hearing it's going to lead to a lot of delays this summer. What other actions has the FAA taken to avoid furloughs, and how did you decide who would get furloughed at the agency?

Mr. HUERTA. Let me take first the question, what other actions did we take. We started first at our contract expenditures and looked across the board at what we could do to dramatically reduce contract expenditures. And we focused on those activities such as the ones I mentioned that represent out-of-pocket cost, travel, information technology, and so forth.

We do have limits on our ability to reduce some contracts, though. For example, our single largest contract is the FAA's telecommunications infrastructure contract. That is a services contract with a private company that provides critical communication services between all air traffic facilities. That contract is worth about $225 million on an annual basis.

So we had to focus in those areas that would not at the same time seriously cripple the mission. But our contract savings alone were not able to get us to our required savings.

By the way, I'd also like to mention that our third largest contract expenditure is for Federal contract towers. These facilities are low activity facilities. They have fewer than 150,000 operations on an annual basis and less than 10,000 commercial operations.

I would like to point out that we have thousands of airports in the United States that operate every single day in a non-towered capacity and operate safely. All but 1 of the 149 towers that we have slated for closure, in fact, close for a significant number of hours during the day. So they have a regular process for operating in a non-towered capacity.

But even looking at all of the contract expenditures, we were unable to achieve the full $637 million in savings. So that's what led us to the need to furlough our employees. In looking across the agency as a whole, we established a principle that we needed to

find the appropriate balance of getting the cost savings that we needed to get, while at the same time having the ability to operate the system, maintain its safety, and recognizing that we were imposing a significant hardship on our employees.

Eleven furlough days between now and the end of the year represents one per pay period. That is a reduction of 10 percent of the pay of each employee, the 47,000 that are affected. From an operational standpoint, it represents a reduction of 10 percent of the available hours that employee is able to provide.

Senator MURRAY. And I'm hearing from some people that some air traffic control towers will be hit more in terms of operational ability.

Mr. HUERTA. No. We have allocated them equally across the whole system. But each facility operates differently, and it may have differing impacts, depending on the specific traffic conditions at that airport.

Let me give you a couple of examples, if I might. Chicago's O'Hare Airport is a major hub airport. It operates with two air traffic control towers, one on the north side of the airport and a central tower that operates for the entire airport. In order for us to be able to operate the north tower of the airport, we have to have a minimum complement of air traffic controllers available to staff a minimal number of positions.

RUNWAY INCURSIONS

If we can't staff all of that minimal number of positions, then we must consolidate operations to the central tower. The airport can continue to operate, but what it means is we lose the ability to use one runway, because that north tower is essential to control the northernmost runway of the airport. So that is an example of how relatively small reductions of hours can significantly affect the operations of an airport.

Senator MURRAY. And that's Chicago—does LAX——

Mr. HUERTA. The Los Angeles airport is a four-runway airport, but it is also a major hub airport for quite a number of operators. In the case of the Los Angeles airport, their traffic loads are such that they're relatively constant during the day. Already at Los Angeles, the north airfield operates under significant operational restrictions because of very closely spaced parallel runways that exist at that airport. And the airport does have a long-term plan to improve that.

But, again, if I have fewer controller hours available to me, then what it affects is the efficiency of the airport. Our highest priority is to ensure that it operates safely, but where we take a penalty is inefficiency.

Senator MURRAY. Okay. And I apologize to the subcommittee for running way over time, but this is what we're hearing from a lot of our airlines at this point: Some of our airports are going to be significantly impacted for reasons they don't understand, like vacations and those kinds of things. So I think it's really important that everybody understands how you got to these decisions and how we're going to move forward on that.

Senator Collins.

Senator COLLINS. Thank you, Madam Chairman. As I highlighted in my opening statement, the total number of runway incursions increased 21 percent between fiscal year 2011 and 2012 from 954 to an all-time high of 1,150.

Administrator, what is the FAA doing to reduce this alarming increase and ensure the safety of the traveling public on our Nation's runways? And to what do you attribute the large increase?

Mr. HUERTA. Thank you, Senator Collins. Let me take the second part of that first. Reported runway incursions reached an all-time high of 1,150 in fiscal year 2012. We believe this number is reflective of changes in our reporting culture through voluntary safety reporting systems, as well as enhanced use of electronic detection systems, expansion of reporting requirements and the deployment of new systems that were designed to streamline reporting.

Nonetheless, this is something that we take very, very seriously. The fiscal year 2014 budget request supports our efforts to reduce runway incursions and to improve airport surface safety. Some of the initiatives that we're talking about include airport safety reviews. This involves conducting airport safety and certification inspections at each of our certificated airports to ensure that the signs, the markings, and the lighting all meet national standards.

Also, airport driver training programs and records are reviewed as a significant part of this, because, as you know, there are a lot of regular vehicles that operate at the airport, and they have to understand how to move on the airfield.

We've been conducting runway safety action team (SAT) meetings, and our fiscal year 2014 budget request would continue to support those. Our SAT meetings improve multidisciplinary teams conducting safety reviews at selected airports based on analysis of the data.

The team is there to improve runway safety through coordinated actions with all components of the aviation community and the FAA lines of business to really understand if there's a design issue or if there's a training issue that we need to address at a particular airport, which takes me to training. There is a significant focus that we've placed on conducting training seminars to provide knowledge, guidance, outreach, and awareness at all levels, and really focusing on if we have the right kind of training in place.

I'd also like to talk about industry involvement. The Runway Safety Council (RSC) consists of officials not only from the FAA and other partners in Government, but also industry and labor. What we want to do is meet regularly to determine root causes of runway incursions. This is part of a collaborative decisionmaking process that we're trying to adopt across the whole FAA to bring everyone together.

Senator COLLINS. Mr. Scovel, do you agree with the analysis that the Administrator just gave that this may reflect better reporting rather than an increase in the problem?

Mr. SCOVEL. Not entirely, Senator Collins. Here's what our examination has revealed. There is a better reporting culture within the FAA among the controllers, and we certainly acknowledge that. The voluntary reporting programs, such as ATSAP, the Air Traffic Safety Action Program, has encouraged controllers to come forward, knowing that there will be non-punitive results from their

self-disclosures, and that has certainly increased, we trust, the number of operational errors or reported runway incursions over time.

However, we also note that better reporting tools, such as TARP and the TRACON environment and a longstanding reporting tool in the en route environment, have also been capturing more and more previously unreported operational errors. And that, too, has been driving the number up.

You asked specifically about runway incursions. Before I address that, very quickly, let me note also that the data collection across the board and the analysis of that data—we have identified areas for improvement for FAA. With regard to runway incursions, as the subcommittee will well remember, that is the number one item on the National Transportation Safety Board (NTSB) most wanted list every single year, and it has been for more than a decade.

Senator COLLINS. Which troubles me, because it's going up, not down.

Mr. SCOVEL. It is going up. The subcommittee will remember that in 2007, the FAA issued a call to action for runway safety in light of a previous rise in runway incursions. And between 2007 and 2009, 2010, that call to action achieved commendable results largely through the measures that Administrator Huerta cited just now as those that are returning to emphasis under his leadership.

We believe that the agency's attention perhaps drifted off some of those safety measures after the initial successes of that 2007 call to action. I commend the Administrator for returning the agency's attention to those, because, certainly, in our view and the view of the NTSB, those will yield the greatest success in terms of reducing runway incursions.

There are technological innovations as well, runway status lights, Automatic Dependent Surveillance-Broadcast (ADS–B), SDX, surface protection technology, all of which the agency is working to implement, encountering some difficulties on those. But we encourage the agency to persist, and we're certain that those will yield better results as well.

Senator COLLINS. Thank you. I'm just going to ask one quick second question. I see we have a lot of members here.

AIRPORT IMPROVEMENT PROGRAM GRANT FUNDING

Administrator, I want to ask you about a part of the budget that just makes absolutely no sense to me. On the one hand, the administration is proposing a $450 million reduction in the Airport Improvement Program, while at the same time the President's budget proposes what he calls an immediate Transportation Investment Program that provides an additional $2 billion.

Could you please explain to us in a brief statement, given our other members who are here, the rationale behind what appears to be taking away money from the same program with one hand and then giving it back with another program? Now, let me say I fully understand that you're restructuring AIP to drop the larger airports and allow an increase in the passenger facility limits. But this still seems to be an odd juxtaposition of reducing by $450 million on the one hand and then increasing by $2 billion.

Mr. HUERTA. Thank you, Senator Collins. As you point out, the two pieces that you referenced are designed to do two different things. The first is a restructuring of the AIP program. The budget requests a total AIP level of $2.9 billion, which is $450 million below our fiscal year 2012 enacted level, and it is paired up with an increase in the passenger facility charges (PFC).

PASSENGER FACILITY CHARGE

Now, consistent with the recommendations from the President's Deficit Reduction Commission, all guaranteed funding for approximately 29 large hub airports would be eliminated under this proposal, because they would have the ability to raise significant funding through the passenger facility charges. Medium, small, and non-hub airport passenger entitlements as well as non-primary entitlements would then be calculated at levels that are consistent with the formulas in effect under current law when the total funding level is below $3.2 million.

Now, in terms of the $2 billion proposal, what that reflects is an interest on the President's part to catch up on the backlog of infrastructure improvements in airports which are required. It is a one-time program that would enable us to accelerate the development of a large number of projects that have been in the pipeline and at the same time create needed jobs for the economy.

Senator COLLINS. Well, thank you very much, Madam Chairman. I would just note that it certainly seems duplicative to me in terms of the purpose of the AIP program. Thank you.

Senator MURRAY. Senator Feinstein.

Senator FEINSTEIN. Thank you very much, Madam Chairman.

UNMANNED AIRCRAFT SYSTEMS

Mr. Huerta, I'd like to confine my question time to this new area of unmanned aerial vehicles known as drones. And as chairman of the Intelligence Committee, I've had an opportunity to understand how potentially dangerous these items are and how they vary in size and scope and ability.

I understand that the 2012 reauthorization act orders you to develop a comprehensive plan to integrate unmanned aircraft into the national airspace no later than September 30, 2015. And it's my understanding that, to date, the FAA has permitted more than 300 unmanned public aircraft so far. For example, the Department of Homeland Security is using surveillance drones to monitor the border. These are not armed, we are told.

Is what I have just said essentially correct?

Mr. HUERTA. That is correct, Senator Feinstein.

Senator FEINSTEIN. Well, I am very worried about two things. One is safety, and the other is privacy. There was a hearing in the Judiciary Committee not too long ago on drones, and we had one example of a drone that was very small and used by a Colorado sheriff's department. I am familiar with drones that are quite large, that are armed, and are used in various places in the world for various tasks.

The fact that they're unmanned, the fact that you may license them for one use, doesn't mean they can't be converted to another

use. Has the FAA looked at that and recognized the potential danger of the development of drones in commercial airspace?

Mr. HUERTA. Thank you, Senator Feinstein. Unmanned aircraft is a technological frontier area that we're trying to accommodate. The direction that we've received from Congress, as you point out, is how we can safely integrate them into the National Airspace System by 2015. You're also aware that the reauthorization act of last year requires us at the same time to designate six test sites to test and understand how this technology would be incorporated into the National Airspace System.

The purpose of the test sites is to enable us to develop data and information along the lines of what you're talking about: How these things are used, what can we learn from them, and questions related to other factors as well. As we were developing the information request to solicit proposals for the test sites, we heard what you heard, which was a lot of public concern about privacy and how these particular vehicles could be used, and did it raise questions about invasion of privacy.

Now, privacy is not something that Congress asked us to look at, nor is it something that the FAA has the authority to regulate. But we did determine that it was important for us to frame the question as we were looking at the test site request for proposals.

What we did was at the same time we released the request for proposals for the test sites, we also published a notice that we would require whoever is designated as a test site operator to publish a privacy protection policy and make that available to the public so it is out there for everyone to see how the data that would be developed through the use of this unmanned aircraft would be used, and does it raise any privacy questions.

I think this is a complicated issue. It's new for us. We relied on the expertise of people that had regulated this area in the past. As an evolving technology, it's one that we're going to have to watch very carefully. There is significant interest on the part of State and local law enforcement for the use of unmanned aircraft for the surveillance purposes that you talked about. There are differing laws at the State level about how these aircraft might be used.

I think that as we develop the data and as we do additional testing, it's certainly something that we are going to be looking at very carefully. But it's not something we have the authority to regulate.

Senator FEINSTEIN. Here's my concern. I understand that. So you could have thousands of these things in the air. How do you control them? How do you keep them from getting into air traffic? And I understand they might have a height limit of 400 or 500 feet. How do you keep them away from airports? You know, there's even a report that a pilot saw one. Was that true or false? I don't know whether it is true or false.

Mr. HUERTA. We had the report that a pilot saw what they determined to be either a model airplane or an unmanned aircraft, yes.

Senator FEINSTEIN. Is there any more information on that, or is that pretty much what it is?

Mr. HUERTA. That's pretty much what it is. But on your question of how can we regulate them safely, this is exactly what we're trying to determine. Through the use of certificates of authorization as well as the test sites, what we need to develop a better under-

standing of is how these aircraft operate in ways that are both similar and different from manned aircraft that operate in the system every day.

The direction we've received from Congress is to safely integrate unmanned aircraft. And so the thing that we care the most about before we allow widespread use of unmanned aircraft is to ensure that they can operate safely, both on their own, but also in conjunction with other aircraft.

Senator FEINSTEIN. I've just learned that there's even an association promoting drones.

Mr. HUERTA. Yes, that's correct.

Senator FEINSTEIN. And there's so much that needs to be looked at very seriously, I think, before we do this. The privacy questions are enormous. Now, I understand that's not really your jurisdiction. But in these test sites, which I assume are not overpopulated areas, will the people that enter into the test have specific privacy policies to which they subscribe the use of their drone to?

Mr. HUERTA. The designation of the test sites would need to be accompanied by a privacy plan. We're not in a position to make a determination of the content of the plan, but what we would require is that they develop one, that they make it available to the public, and it is available for people to read and understand.

Senator FEINSTEIN. I know they wouldn't legally carry munitions. But there's nothing to stop someone from arming one with munitions, and that's my big concern.

Mr. HUERTA. Well, to a certain extent, that risk exists today with manned aircraft through the extensive use of general aviation that takes place——

Senator FEINSTEIN. Yes, but not in commercial aviation.

Mr. HUERTA. Not in commercial aviation. That is correct.

Senator FEINSTEIN. But there will be many more drones than there are private aircraft, most likely.

Mr. HUERTA. Well, this is something that we're going to have to try to understand. You are correct. There are industry proponents that really see this as the next frontier of aviation and are actively promoting the use of these aircraft. There are a lot of beneficial uses that the industry is promoting as well, for example, weather surveillance or environmental initiatives, where they're examining, for example, loss of ice in the Arctic areas or surveying of coast lines, mapping activities.

Senator FEINSTEIN. I think we would all agree with that. It's what's outside of that that's of deep concern.

Mr. HUERTA. But this is what we need to focus on, and this is what we will need to learn as we develop this information.

Senator FEINSTEIN. Good. I'm glad to hear that. My time is up, and I thank you.

Senator MURRAY. Thank you very much.

Senator Moran.

Senator MORAN. Thank you, Madam Chairman.

CONTRACT CONTROL TOWERS

Administrator Huerta, I want to focus on the control towers. Has there been a safety analysis completed on each one of the 149 towers that you propose to close?

Mr. HUERTA. Senator Moran, yes. We did conduct an analysis and determined that it was feasible for each of these towers to operate safely. That was the first decision. The second decision——

Senator MORAN. It was capable for each of these towers to operate safely.

Mr. HUERTA. Correct.

Senator MORAN. The towers are operating safely?

Mr. HUERTA. No, for the airport to operate safely——

Senator MORAN. In the absence of a tower?

Mr. HUERTA [continuing]. In the absence of a tower. The second part of the question then becomes how we get there. It was for that reason in working through with our local sponsors and partners that we decided to introduce the delay to June 15 to ensure that everyone fully understood how that transition would work.

As I mentioned in my earlier remarks—this was before you arrived, sir—every one of these towers except one operates in a non-towered capacity for some portion of the day. So there are well-established rules of how the airport operates in a non-towered capacity. The tradeoff is in order to maintain a safe operation, what you might sacrifice is efficiency. So they may operate less efficiently in a non-towered capacity, but they will certainly operate safely.

Senator MORAN. So the 149 air traffic control towers that potentially will be closed were never necessary for safety reasons?

Mr. HUERTA. We have thousands of airports that operate in the country every day that——

Senator MORAN. That's not my question. Are the airports that we've had towers at—were those towers placed there because they were important for safety?

Mr. HUERTA. The towers were placed there for a variety of reasons. But my point is that we are not doing anything that is not safe. The airport can continue to operate in a non-towered capacity safely, just as they do for many hours of the day.

Senator MORAN. Do the airports then operate in a less safe manner? You're saying they're safe, but how can they be as safe without a tower as they are with a tower?

Mr. HUERTA. What we do is we transfer responsibility to the pilots, and we limit and separate traffic greater distances to ensure added margins of safety if there is not a tower right on the airport.

Senator MORAN. Can you provide the subcommittee with the separate analysis of each airport of the 149?

Mr. HUERTA. There is different analysis that we have done, and we can certainly provide that to the subcommittee.

[The information follows:]

Safety analyses were conducted for each airport subsequent to the development of a safety case that looked into airport standards, equipment, procedures, provision of critical information to stakeholders and pilots, and impact on neighboring facilities. This process identified 20 mitigations required for the withdrawal of funds. These requirements were then applied to each facility and a mitigation implementation plan developed for each airport. We have provided the subcommittee with the FAA safety risk management document that contains all of this information.

Senator MORAN. When did you do the analysis?

Mr. HUERTA. We did the analysis as part of our overall review where we looked at the activity levels associated with these towers, we consulted with our partners in the Defense Department and the

Department of Homeland Security, and then once we made the decision, we've been consulting with local airports.

Senator MORAN. What was the timeframe in which the analysis was done, and how long did it take?

Mr. HUERTA. The analysis was done over the earlier part of this year. We spent several weeks looking at this question of how we would close these facilities.

Senator MORAN. Were there any airports that you determined needed a control tower to remain safe within that program?

Mr. HUERTA. Yes.

Senator MORAN. How many were they?

Mr. HUERTA. I will get you an exact number for the record.

[The information follows:]

As a result of the safety analyses we determined that 19 facilities needed to remain open for an additional period of time in order to evaluate the impact on neighboring air traffic control facilities in the event those towers did close and did not continue operating as non-Federal contract towers.

Mr. HUERTA. But in general, if two characteristics were met, they were located in busy congested airspace adjacent to a major commercial airport and so the handling of those activities in conjunction with the major airport was a factor to consider; or, secondarily, based on discussions with the Defense Department, where it served a significant national security purpose.

Senator MORAN. Is that the analysis that was done by the airports that requested they not be closed because of national interest? Is that the ones that you were then——

Mr. HUERTA. That was part of it, yes, sir.

Senator MORAN. But there were airports that had air traffic control towers before the request for demonstrating a national importance, a national need, that were determined—that a control tower needed to be there for safety in this instance. But in other instances, the control tower was not necessary for safety.

Mr. HUERTA. It's a function of configuration and traffic and efficiency of the airport. We're not doing anything that is not safe, and each airport operates under different conditions.

Senator MORAN. Do you disagree with the testimony of the NTSB at the Commerce hearing that you were at earlier this week that talked about the importance of the redundancies that the air traffic control tower provides and the safety that's necessary, that follows that redundancy?

Mr. HUERTA. I think what the chairman said was that they had not done a specific analysis of towered versus non-towered airports. She did note that safety is a function of many layers of safety. As I've said, we are not doing anything that would make the airports operate unsafely. In the event there is any tension between safety and efficiency, what will suffer is efficiency. But the airports will operate safely.

Senator MORAN. I have a series of questions, but my time has expired on my first question.

Mr. Huerta, let me make sure that I understand what you're saying is that none of the airports are any less safe when the tower is closed than they were when the tower was there. You say they're all operating safely. But my question is has safety been reduced?

Mr. HUERTA. It is not, because the nature of the operation changes in a non-towered capacity. They operate less efficiently. We put more separation—pilots are required to communicate with each other, and that compensates for the lack of a tower.

Senator MURRAY. Thank you very much.

FURLOUGH IMPACT ON NEXTGEN

I wanted to ask you about the furlough's effect on the FAA's ability to move forward on NextGen. Even if a capital program is fully funded, FAA still needs to have engineers there and traffic controllers on the job in order to get the work done.

Mr. Huerta, talk with us about the impact the furloughs are going to have on NextGen and especially on ERAM, which provides a foundation for FAA's modernization.

Mr. HUERTA. The most significant problem with the furloughs and how it affects NextGen is how it affects what we call the collaborative workgroups. These are workgroups that are made up of stakeholders, controllers, management in facilities, and these workgroups are essential for us to work through deployment problems associated with new technologies and ensuring that we're able to address training and development issues associated with the deployment of new technologies.

We have a large number of these workgroups. They tend to be very site specific. For example, as we're deploying ERAM in a given air traffic center, there will be a collaborative workgroup that supports that deployment. Likewise, in our Airspace Modernization Program, such as our Greener Skies Over Seattle initiative that you're familiar with, we would have a collaborative workgroup that would work on the design of those procedures.

As a result of the reduction in controller hours, we have found it necessary to pull back people that would otherwise be working on collaborative workgroups to their home facilities so that they can deal with day-to-day operations to mitigate the impacts that we would otherwise have on day-to-day operations. And so that, of necessity, is going to introduce some delay in the continued rollout.

The deployment of ERAM—I feel we are in a very good place, where we are right now, as a result of the use of these collaborative workgroups. But I can envision a situation until we can restart them that some of the later sites may be delayed for final deployment.

Senator MURRAY. Mr. Scovel, you've done a lot of analysis on the ERAM program and its progress. And your most recent audit recognizes the FAA has improved its management of ERAM and turned it around but said there's still some risks. In particular, you said the program is spending its money quickly and some of the hardest work is still ahead.

What does the FAA need to do to manage these risks? And, in particular, do you think sequestration cuts will add to the FAA's challenges?

Mr. SCOVEL. To your last point, Madam Chairman, sequestration will certainly add to FAA's challenges in dealing effectively with ERAM. What we have learned over the last several weeks is that FAA will continue to support facilities that use ERAM on a full-time basis. Those are currently 10: Salt Lake City, Seattle, Min-

neapolis, Albuquerque, Denver, Chicago, Los Angeles, Oakland, Houston, and Kansas City.

But the program will halt activities for five facilities that were working to transition from part-time use of ERAM to full time. And those facilities would be Memphis, Cleveland, Washington, New York, and Boston. In addition, the agency will stop plans for the last four sites that are currently using Host, the legacy system, full time to control air traffic, and they have not yet begun transitioning to ERAM. Those would be Atlanta, Miami, Jacksonville, and Fort Worth.

The reason for all of this is precisely what Administrator Huerta outlined. The collaborative workgroups that involve a significant number of controllers have had to be reduced or, in some instances, eliminated from the group of four or the group of five in order to ensure that those controllers are available for their primary duties.

EN ROUTE AUTOMATION MODERNIZATION

This will have an impact on ERAM, certainly, through the rest of this fiscal year, the year in which sequestration is fully upon us. But because of the ripple effect of suspending transition operations at these other nine centers, we can expect that into fiscal year 2014, ERAM will similarly be hobbled—perhaps that is the right word. It would not be, certainly couldn't be, as far along as it would had sequestration not impaired the agency's ability to use controllers in these workgroups.

The agency through dint of main effort has set August 2014 as the firm and fast deadline for implementation of this initial phase of ERAM. I caution the subcommittee, however—and the industry is certainly well aware—that whatever state ERAM is in in August 2014 will not be what was fully envisioned when ERAM was first contracted some years ago.

It will also necessitate further software releases for several years thereafter. In fact, one is planned for fiscal year 2014 and thereafter to the tune of close to $1 billion. That will, again, position ERAM to most effectively support NextGen—impact on NextGen most certainly because of the impact of sequestration on ERAM.

Senator MURRAY. I've gone over, but I want to ask you one additional question, Mr. Huerta. I may have to run to another hearing, and in a truly bipartisan fashion, Senator Collins has agreed to chair if I have to leave. But I did want to ask you one additional question.

ALTERNATIVE JET FUELS

I'm really pleased that FAA has been working hard on making air traffic more sustainable, and there are a lot of ways to tackle that problem. I am particularly interested in the potential of alternative jet fuels. My home State of Washington is making some really great strides in research and development of some really promising technologies that will help us move toward some alternative jet fuels.

We've got industry, nongovernmental organizations, universities. They've all joined together in a consortium—Sustainable Aviation Fuels Northwest—to evaluate some of these opportunities and chal-

lenges around alternative jet fuels. As you know, the FAA has created a Center of Excellence on this.

Can you tell us a little bit, real quickly, in a short amount of time—and maybe answer me offline as well—about your vision for these centers?

Mr. HUERTA. The vision for the new Center of Excellence is to help us tackle the energy and environmental challenges facing aviation and to ensure sustained aviation growth but in a sustainable manner. Aviation has always faced challenges with energy, noise, air quality, and climate, and what this really says is you need an integrated approach to look at how all of these things relate to one another.

The idea is that the center would help us through research and development activities to develop a much better comprehensive understanding. The focus of the new center will help us achieve our aspirational goal of having 1 billion gallons of alternative jet fuel in use in aviation by 2018 and ensuring the widespread use of these fuels in the longer term.

Now, we've received proposals and we're reviewing them in response to the competitive solicitation that we put forward, and this should be completed in the next few months, at which time we will provide a formal notification.

Senator MURRAY. I very much appreciate that.

I'm going to turn to Senator Collins, and, again, I may just leave in just a short minute. But, again, thank you, Senator Collins for taking over for me on the subcommittee and to our subcommittee members.

Senator COLLINS [presiding]. I'm honored to do so and pleased that you trust me to do so, Madam Chairman.

First, let me associate myself with Senator Murray's comments about alternative jet fuels. We have some really interesting research going on at the University of Maine in this area. And I, too, think that it holds great potential, and I hope this is something that we will see the administration continue to encourage and fund some of the basic R&D that is necessary.

AIRPORT IMPROVEMENT PROGRAM FUNDING

I want to return to the Airport Improvement Program and ask some basic questions of you. First of all, what percentage in dollar amounts of the Airport Improvement Program grants currently go to small airports? And, second, under the budget proposal for AIP, will there be an increase or a decrease in funding to go to small airports? I understand what you're doing with the big airports, so I don't want you to take the time up on that.

Mr. HUERTA. In fiscal year 2013, we estimate that the small airports would receive about $2 billion or 63 percent of the $3.2 billion in total AIP grant funding. This includes entitlement and discretionary spending, but does not include entitlements that may have been carried over from previous years.

Under the fiscal year 2014 budget proposal, small airports would be expected to receive about $1.9 billion or 69 percent of the $2.75 billion in total AIP grants. So that's an estimated decrease of about $121 million.

Now, while small airports would receive less AIP funding overall, the programmatic changes that accompany this in the budget would increase the amount of discretionary dollars that are available to small airports because of the suspension of the large airports from the AIP program. So, therefore, that means that the small airports would have more access to the $801 million in fiscal year 2014 discretionary spending.

Senator COLLINS. So for the small airports, overall, there's an estimated decrease of $121 million from fiscal year 2013. You're pointing out that the small airports would have more access to the $801 million in discretionary funding. But isn't it accurate to say that they are not guaranteed the same level of funding that they had received from the entitlement part of the program, the formula part?

Mr. HUERTA. It is true that the formula would be reduced. But since we are excluding their large competitors for the discretionary program, I would feel confident that they would be able to get back to those levels through the discretionary program.

787 DREAMLINER

Senator COLLINS. Thank you. I want to talk about the 787 Dreamliner. Some experts have contended that the Dreamliner incidents have revealed that the FAA lacks the expertise to effectively test and evaluate new technologies such as the lithium batteries, and thus is relying too heavily on Boeing to vouch for the safety of the system. What's your response to that concern? Do you agree with that?

Mr. HUERTA. I don't. For 50 years, the FAA has relied on a system of shared technical expertise being brought together, where we assemble the best technical experts both from inside the Government as well as from industry to make determinations on how we set the highest levels of safety. But the FAA always retains the ultimate responsibility to make the call and to issue the certification.

Aviation by its very nature is about pushing technological boundaries, and so when a new technology is presented as part of a new aircraft or a new piece of equipment, we bring together technical experts that understand that technology and its interactions in an operating context. Based on that process, we set certification standards, and that was the case for the 787. It's a process that has served us very well for 50 years, and it will continue to serve us well in the future.

Senator COLLINS. Mr. Scovel, do you agree with that? Does FAA have the expertise in-house that it needs, or is it too reliant on trusting the contractor? I'm just using Boeing as an example. There, undoubtedly, are others.

Mr. SCOVEL. I understand. I need to start by issuing a caveat, and that is we don't have current work, any work, specifically, examining the 787 question and supposed over-reliance by the agency on Boeing's own engineering expertise. I can say that we have examined certain facets of the FAA's certification program.

One that we expressed concern about in a report a couple of years ago was FAA's reliance on organizational designation representatives. These are company airline manufacturers, representatives, employees, who are detailed, in effect, to the agency. They re-

main on the manufacturer's payroll, but they are performing the certification responsibilities that Administrator Huerta outlined.

Over the development of that program in more recent years—and it's been in effect for a long, long time, so it's not a new development—but as the program has been refined in more recent years, the ability of FAA to review the qualifications, performance, or even the conduct of those company employees who are performing FAA responsibilities has been diminished by mutual agreement between the agency and the manufacturers involved to include Boeing.

We are concerned that that relinquishment of overall supervisory authority over such designees by the agency may, in effect, at some point raise the question of whether the agency is properly exercising its certification responsibilities.

Senator COLLINS. Thank you.

Senator Feinstein.

Senator FEINSTEIN. Thanks very much, Madam Chairman. I appreciate it.

HELICOPTER OPERATING PRACTICES

I want to raise an old saw, and it's unregulated use of helicopters. As you know, this is a source of major concern to millions of Angelinos, and I understand the same thing is true in New York City. And these are helicopters flying low and spying on prominent people, particularly in the Los Angeles area.

Our fiscal year 2013 bill directed the FAA to complete a report on the subject. It's my understanding that your regional administrator, Bill Withycombe, has held public hearings and is looking at the problem and has committed to releasing a report in May of this year. That report is meant to evaluate a full set of voluntary and regulatory options to reduce helicopter noise and address the safety issues, as well as, candidly, privacy issues.

Is that report going to be released in May of this year, Mr. Huerta?

Mr. HUERTA. Yes. In response to the congressional request, we have, indeed, undertaken LA helicopter noise initiative, and we are intending to release it to Congress in May of this year.

Senator FEINSTEIN. Good. Do you have any indications of what might be forthcoming?

Mr. HUERTA. Well, these are always very complex issues. As a result of this noise initiative, community interests, helicopter operators, have been meeting regularly under the leadership of our regional administrator there in Los Angeles. The purpose of this is to identify very specific noise sensitive locations that exist there, helicopter operating practices, and other things which contribute to the residents' concern about noise pollution that exists in the neighborhoods.

It's a group that we're finding to be very committed to finding solutions that provide noise relief while not degrading or eroding the business operations that exist there. I think it's fair to say that we would place a greater emphasis on working this out locally and reaching agreements. The reason for that is it gets you to solutions more quickly than a traditional rulemaking might.

If the operators can develop a much better understanding and through the use of such things as notices to airmen or NOTAMs and outreach to the helicopter operators, engaging the local officials—for example, a lot of the concerns might come through the use of police helicopters or news organizations—and you bring the parties together and work through how they actually operate, often that will get us to solutions. But this is all the stuff that we're looking at there in Los Angeles.

Senator FEINSTEIN. I think if you just kept them out of residential areas and maybe with a waiver for police, that might solve the problem. But as you know, Los Angeles has a large Hollywood community, and these helicopters regularly are a problem in these residential areas. The question is do they really belong there to kind of be spying on people, and that's not a legitimate business interest.

Mr. HUERTA. Well, I think that, clearly, there is significant concern about helicopters that are, in the views of the residents, just there to make mischief. But I think the distinction that I was drawing was regulatory versus non-regulatory approaches. If we can solve the problem through non-regulatory approaches, it happens much more quickly. If we still have a problem as a result of those efforts, then it is something that we have to take another look at.

Senator FEINSTEIN. Well, let me say that I appreciate that, and I appreciate the action. I know it's controversial, but I can tell you the complaints are large and the distress is large. So I'm very grateful for that.

Mr. HUERTA. Well, Senator Feinstein, as a Californian, I hear from your constituents.

Senator FEINSTEIN. Yes. One other thing. Is there any reason why a drone pilot should not be certified and licensed?

Mr. HUERTA. This is actually one of the questions that we are examining as part of our overall review of how we incorporate them into the National Airspace System: What should be the requirements of an operator of an unmanned aircraft?

Senator FEINSTEIN. Because they also ought to be identifiable. If I understand what's coming down the pipe, it's hundreds of thousands of these things flying everywhere. And I think it's a real hazard and that we really need to be able to identify abhorrent behavior, that the pilots who pilot them, whether they're crop dusting or doing anything else, should have a specific legal responsibility.

Mr. HUERTA. Well, that is one of the questions that we are examining as part of safe integration.

Senator FEINSTEIN. Well, I'm going to introduce legislation to require it. So I don't know where that will go, but I have real concerns, and I would hope that the FAA could understand this, because the first big accident we have is going to change the whole dynamic, and it will happen.

Is there a limit on size that the FAA certifies?

UNMANNED AIRCRAFT SYSTEM

Mr. HUERTA. There are different operating characteristics for very small unmanned aircraft systems (UAS). Essentially, what we're trying to do is draw a distinction between what is a modeler,

who might be flying a model airplane—as long as they're flying at very low altitudes and not interfering with any kind of commercial aircraft—that's a category where we have much less concern.

But as you pointed out in your previous statements, unmanned aircraft that operate for a wide variety of purposes at higher altitudes can be of very different sizes, and our big concern is how do we safely integrate them with other aircraft.

Senator FEINSTEIN. Well, you know, one of the things I'm familiar with is the real-time video that can be taken off of these.

Mr. HUERTA. Sure.

Senator FEINSTEIN. Consequently, they are real spy machines. Now, is that something we want in commercial service in the United States of America? And I think that's a very real question with which the industry has to grapple.

Mr. HUERTA. That's a fair question, and I think that's one of the things that we will learn more about as a result of these test sites and data gathering that we're going to be doing.

Senator FEINSTEIN. Well, let me ask you this. Can this get ahead of you?

Mr. HUERTA. It's a very rapidly evolving technology.

Senator FEINSTEIN. Yes.

Mr. HUERTA. And I think it's fair to say that the public is only now coming to grips with what the full implications of that are. I have stressed to the industry associations the importance of them being very transparent about what the potential for these activities needs to be. But I think that we as a country need to look at this technology very carefully, and while we're very focused on how we safely integrate them, larger questions are raised that we and our Government partners will need to consider in the months and years ahead.

Senator FEINSTEIN. And exactly—you know, I can envision drone fights in the air, drones cracking into each other. So I think they have to be identifiable. I think the pilots have to be certified. We have to know who's doing this, because it doesn't take much to put a munition on it once you've got the know-how.

So I know the company that makes most of these, I visited in California, and it's certainly a first-rate company, but that also troubles me because their ability to innovate is so great. So I would just like to urge you to give your attention to this subject, because what we do is going to make a huge difference down the stream, even before we know the full implications of this.

Mr. HUERTA. That's very good counsel, Senator.

Senator FEINSTEIN. Thank you. Thank you very much.

Senator COLLINS. Senator Moran.

Senator MORAN. Senator Collins, thank you very much.

Administrator, I want to go back to something I raised with you in my earlier round of questioning, and I want to make sure we have an understanding of what you're going to do in providing copies of the analysis. Those words, analysis, study, exam, review, have different meanings. We use those words many times, and I'm not sure they always mean the same to each person using those words.

So I'm really interested in seeing what kind of analysis, study, exam, review that the FAA did to demonstrate the safety of your decision. And as I understand it, you did an analysis of each one of the 149 control towers and reached a conclusion in each instance that it would be safe to eliminate the control tower. I want to confirm with you that you will provide that analysis on each one of those towers to the subcommittee and then ask you what kind of timeframe that will take.

Mr. HUERTA. I'll need to provide a response for the record in terms of what kind of a timeframe that will take.

[The information requested by the subcommittee was submitted by the Federal Aviation Administration on CD media on June 10, 2013.]

Mr. HUERTA. The analysis that we conducted was a function of what is the level of activity of these facilities, and then its relationship to the surrounding environment and other airports that might exist in those facilities, national defense, and so forth. I think that it's fair to say that the analysis did, for example, consider questions. Does the tower close at night?

Therefore, that tells us there are specific operating procedures for that airport to operate in a non-towered capacity. And we can provide you all of that information.

Senator MORAN. That's interesting to me, and I hadn't thought of that point. But it's interesting to me that there was no analysis that would say that perhaps it's safer if we had air traffic control towers operating 24 hours a day. You reached the conclusion that it was safe because they weren't operating certain hours of the day. But there's also an analysis that could show that they could be valuable in improving safety if they were operating more hours.

Mr. HUERTA. Senator Moran, as I said in response to your earlier question, what changes when an airport operates in a non-towered capacity is how it operates.

Senator MORAN. And, again, I don't mean to be redundant, but you will provide that information to the subcommittee and you will let us know how much time it takes to get it to us?

Mr. HUERTA. Yes, sir.

Senator MORAN. Thank you very much. You may be aware of my effort on the Senate floor with Senator Blumenthal and nearly 30 of my colleagues, Republicans and Democrats, to try to alleviate this problem by shifting some funding within the debate of the continuing resolution from unobligated balances in research and facilities accounts. Did you oppose that effort to transfer or to change those monies from being spent in the unobligated accounts and facilities manner to providing money for control towers?

Mr. HUERTA. I think it was quite clear that the administration's position was that we were looking for a global resolution to the sequester issue. As it relates to our ability to deal with the impacts of the sequester, as you know, it's a blunt instrument, and we are implementing the law as it has been enacted. Should different laws be enacted, we will implement them.

Senator MORAN. You know, that standard was not applied uniformly during the continuing resolution debate, and I don't expect

you to have an answer for why that would be the case. I visited, as you may know, with Secretary LaHood, who told me that he would like to be helpful in the cause, but indicated the administration opposed my amendment.

His explanation was that the administration wanted to have a—different than what you just said, but what he indicated was the administration does not want to solve this problem on a short-term basis. I should tell you that I didn't vote for sequestration. I think across-the-board cuts are irresponsible. I'm not defending sequestration. I am criticizing the manner in which you're implementing sequestration, because I don't think it's required under the circumstances.

SEQUESTRATION

But, again, I share the view, I suppose, of the administration that sequestration is not a manner by which we should find savings. Having said that, Secretary LaHood said the administration opposes my amendment because it is not a long-term solution to the problem. Everything, Administrator, within the continuing resolution was a short-term solution. It's a continuing resolution that gets us through until September 30.

I couldn't find a single Senator, Republican or Democrat, who opposed the amendment. All of them spoke to me in favor of the amendment, could not understand why we couldn't transfer money that was unobligated and unused to a higher priority. And so it is still confusing to me, even with your answer.

I can't solve in the continuing resolution the issue of sequestration. I'm interested in solving the issue of sequestration, but it looks to me like you would allow us to help you at the FAA solve a problem in a way that is less damaging to the traveling public. So I remain confused by the suggestion that we want to solve a longer-term problem with sequestration. So do I.

But it does seem odd to me and it seems inappropriate to me that you're unwilling to solve a problem that you're presented with, one problem at a time as they come up. Unfortunately, that's the circumstance in which we find ourselves. You're not interested in solving this problem until we solve the larger problem?

Mr. HUERTA. Well, Senator Moran, these are all not optimal decisions. I've said repeatedly that these are all very difficult choices. Every dollar that I am unable to save through the Federal contract tower program is a dollar that I need to find in employee furloughs. And there's a tension and a tradeoff between lower activity facilities, higher activity facilities. This is an extremely difficult statute to implement, but it is the law and we're forced to implement it.

Senator MORAN. And let me make sure that I understand that answer, which is you do have the discretion to decide where the cuts would occur, because you're choosing to cut the control tower program and perhaps not furloughing air traffic controllers at more high volume airports. So the suggestion that has been made—I don't know if by you or not—that we have no choice—it is a choice, but it's a choice that you describe as difficult, but you made a choice. Is that true?

Mr. HUERTA. Well, the choice that we made is to minimize impact on the maximum number of travelers. I'd like to share with

you a specific example. Many of these smaller facilities have very low activity of all flights. So if I'm looking at the tradeoff between closing a tower which can operate safely where the maximum number of commercial activity flights might be, say, two or three a day versus affecting the arrival rate at a large facility, I'm going to err on the side of ensuring that I protect the maximum number of travelers.

Senator MORAN. Administrator, that's exactly what I would want you to do. And what's disturbing to me is the continual suggestion that we don't have the discretion to do that. What you're saying to me is exactly what I've been saying on this issue, which is why can't we prioritize? You prioritized. You decided that this is more important for safety than this. Why isn't spending money on control towers more important than unobligated balances?

Mr. HUERTA. Because the unobligated balances are in a different funding source which I am not permitted to transfer money from.

Senator MORAN. But I was giving you the authority to do that.

Mr. HUERTA. But it's authority that I don't have.

Senator MORAN. But you opposed me giving you the authority to do that. It doesn't make sense to me. I'm still baffled by this. Mr. Administrator, it does seem to me that you have indicated there was discretion, or, at least, you have the opportunity to prioritize. You have the discretion because you've now decided to keep some towers open or keep towers open for another couple of months, and you added some towers back to the list that wouldn't be closed.

So it does seem that there's some opportunity for you to utilize that discretion, and I wish you would support us giving you the opportunity to have more discretion. One of the things that caught my attention, and I assume that you said this. It comes from a newspaper in Frederick, Maryland. And you were quoted at the time when the stimulus dollars were made available, $5.3 million at Frederick, Maryland, for an air traffic control tower.

This was just a few years ago, and I read the article that said that by the time the air traffic control tower was open for business, you made the decision to close the tower. But back during sequestration, this is what you reported as saying in the local newspaper.

"More than 300 aircraft are based at the airport. It has two runways and handles 130,000 aircraft operations annually, Huerta said. It is estimated that the number will increase to 165,000 by 2025. Huerta had to almost shout above the noise to say he came to make the case that the airport is so busy that it needs a tower." Quoting you, "I think the case has been made, Huerta said. This has become a very busy airport," and yet it's one that is being closed.

Mr. HUERTA. And its current rate of activity is less than 150,000 operations. As I've said, these are difficult choices.

Senator MORAN. Madam Chairman, I was asked by Senator Blunt to ask a question in a different vein, although it's along the same topic. Our colleague, Senator Blunt, has introduced a bill earlier this week that would ensure that essential employees upon whom public safety depends can continue to work without furlough.

During a Senate Commerce Committee hearing earlier this week, you asked for the opportunity to review the bill. And Senator Blunt

asked me to ask you if you had reviewed the bill and now had an opinion.

Mr. HUERTA. We have reviewed the bill. The administration has not taken a position on it at this point.

Senator MORAN. I think, Madam Chairman, that's all I have.

COST-SAVINGS

Senator COLLINS. Thank you very much, Senator Moran. I want to recognize your very strong leadership on the contract tower issue. This is an issue that is of great concern to many of our colleagues on both sides of the aisle. And I personally believe that had you been able to get a vote on the Senate floor that you would have won overwhelmingly.

Mr. Attorney General—Inspector General—maybe you'd like to be Attorney General—maybe not.

In your statement, you talked about that the FAA could realize cost savings through improved controller productivity and scheduling. And you talk about that since 2000, total air traffic operations have declined by 23 percent while the number of air traffic controllers has actually increased. I mention this because I think the furloughs are a very blunt and harmful instrument that does not set priorities.

But it seems to me that in your excellent testimony and the audits and reports that you've done that you've suggested other ways that savings could be achieved and that the targets under sequestration could be met. So could you talk to us a little bit more about your comment that FAA could realize cost savings with better scheduling and higher productivity?

Mr. SCOVEL. Yes. Thank you, Senator Collins. It is true that air traffic operations since 2000 have decreased about 23 percent with slightly more controllers on duty today than there were then. We've been asked by the House to undertake a review of air traffic controller productivity, and that review is underway, and we don't have conclusions yet that I can share with you.

However, what we have identified through a number of audits of FAA's air traffic controller scheduling practices as well as training is that there are a number of towers—and that's been the subject of discussion off and on between Senator Moran and the Administrator—but a number of towers that maintain at least two air traffic controllers on duty through the nighttime hours when, by virtue of FAA's own threshold requirements in terms of operations, those towers should be closed.

CONTROLLER TRAINING AND SAFETY

There are opportunities for savings if FAA were to apply its own thresholds to those particular towers and leave those towers unmanned during the nighttime hours. We defer to the agency in terms of the safety question, and we are very cognizant of Senator Moran's concern with safety as well as the testimony of the NTSB chairman on Tuesday, in which she offered the view that redundant safety systems, safety layers, can only enhance safety rather than decrease it.

Senator COLLINS. Well, I think part of that also was in response to the very unfortunate incidents where the air traffic controller had fallen asleep during the nighttime shift——

Mr. SCOVEL. Exactly.

Senator COLLINS [continuing]. Which is obviously unacceptable. I'm not sure the answer is to have a second person there to wake the person up. But I do think that that's probably why two are on duty.

Mr. SCOVEL. It is in some instances as a result of the concern over fatigued controllers from several years ago. A decision was made by the agency and, in fact, the Department to put a second controller on duty at those locations, notwithstanding the fact that nighttime operations were below the threshold that had been specified by FAA for manning the tower in the first place.

SEQUESTRATION

Senator COLLINS. The reason I mention this issue, Administrator, is that I would encourage you to go back and really scrutinize your budget—I'm not saying that you haven't—but to look at the contract towers issue, the post midnight issue, particularly when you're dealing, as we are in Bangor, with a dual use airport that has military operations as well as civilian, and to also take a look at the furlough issue. I'm worried about the impact on morale. I'm worried about the impact on operations.

I've met just in the last couple of weeks with high-level Navy officials and National Guard officials, and they have both been able to work through this in a way that has either greatly lessened the number of furlough days that will be required by DOD's civilian employees within their departments or eliminated altogether. And the disturbing thing is I'm also hearing that the White House is putting pressure on the Navy, the Coast Guard, and the National Guard to do furloughs anyway. I don't think we ought to be trying to enhance the pain of sequestration.

I agree that sequestration was a terrible policy. It doesn't set priorities. It treats programs as if they're of equal worth, and it is a very poor way to legislate. But here we are, and it seems to me that we've got to work together to try to figure out ways to minimize the impact on operations and on the workforce.

I personally believe we're going to end up paying more later in a lot of these cases as we delay contracts and cause problems in the supply chain and take other actions as a result of sequestration. So I would encourage you to go back and take another really close look at your budget.

FURLOUGHS

Mr. HUERTA. Senator Collins, I can't speak to what's going on in other agencies, but I will give you my assurance that we are in a continuous evaluation of where we can achieve cost savings. I will say that when we first began our initial planning, we actually thought that we were going to have a much larger number of furlough days. And through our very aggressive efforts to reduce spending in other areas, we're able to get that down to the 11 that we're currently working with, and we will continue to work on that.

I have with my staff weekly reports on how we're doing with contract expenditures, what we're seeing with respect to our actual performance. This is something that we will continue to manage throughout the fiscal year as long as the sequester is in place.

As you know, and as I've said repeatedly, these are difficult choices, and we're forced to choose between very unattractive options. But nothing would be better news for me than a situation where we would be able to relax these draconian measures. But it all depends on how the financial performance plays out in the weeks ahead.

ELECTRONIC DEVICES ON PLANES

Senator COLLINS. Let me just ask two final questions. One, Administrator, what progress has the FAA made in reviewing airline procedures governing the use of portable electronic devices such as smart phones and tablet computers in flight? It's not that I'm seeking being on a flight where everybody's on a phone having a conversation. But, obviously, there's a great deal of interest in being able to use devices on these flights and a great deal of skepticism, I would say, among the traveling public about whether this really is a safety issue.

Mr. HUERTA. Sure. Let me draw the distinction between the use of phones and the use of other electronic devices.

Senator COLLINS. Yes, a valid distinction.

Mr. HUERTA. The use of phones is regulated by the Federal Communications Commission (FCC), and right now their current rules prohibit the use of phones on aircraft in flight. The FAA, for other electronic devices, recently committed at the start of this year an Aviation Rulemaking Committee (ARC) to advise us on whether we should revise the regulations that we currently have in place that restrict the use of these devices during critical phases of flight.

This rulemaking committee is made up of representatives not only of the device manufacturers, but also representatives of crews, and of aircraft operators. These members will have the full scope of perspectives that would come into play as we consider how to look at these things, as well as the research and technology community so that we can really understand what the challenges are with respect to electronic performance.

Current law provides that any airline could do an analysis of devices on their aircraft, and if they determine there is no interference, then they could be allowed. We recognize, though, that there has been an explosive growth in the type and variety of electronic devices. So it was for this reason that I made it a personal initiative to really try to convene this group to consider what a way forward would look like.

We're expecting the work of the ARC to be concluded this summer, and at that time they will make recommendations to us on what a way forward might look like. The balance they have to achieve is what's technologically feasible, but also what can be enforced in an operational context by crews and operators of airlines.

Senator COLLINS. Thank you.

AUDIT OF LOS ANGELES INTERNATIONAL AIRPORT

And, finally, Mr. Scovel, I know that the inspector general's office is conducting an audit of the Los Angeles International Airport's (LAX) revenue use as a result of a particular incident where revenue was diverted for purposes not allowed under the law. Two questions: What is the status of that audit? And, second, has your office uncovered revenue diversion incidents—that's a bureaucratic term for it—at other airports throughout the country, in other words, misuse of revenues?

Mr. SCOVEL. Senator Collins, our review of supposed revenue diversion at Los Angeles International Airport is underway. We haven't completed it yet. So I'm not in a position to speak specifically to that, except to note that we are conducting that review in response to a request from three Members of the House.

We have also received information independently through third party sources affiliated with LAX. Some of those allegations we referred to FAA for their review, and they have conducted that. And my staff together with FAA is in the process of reviewing those conclusions. But the larger piece has fallen to one of our audit groups, and that effort is still underway.

AUDITS OF REVENUE DIVERSIONS

To your other question, the nature of revenue diversion at airports nationwide, unfortunately, it is—I can only call it pernicious and persistent. It is required by Federal law that revenues generated by airports be used for airport purposes. To use it for anything else, such as police or fire services off the airport, as we have found happened—the parking fees generated in lots and garages on the airport to be used for off-airport services—we have found numerous instances of that.

Both my office and Administrator Huerta's agency have groups that have long experience in investigating and attempting to resolve instances of revenue diversion. His group as well as mine are tremendously under-resourced. We could probably dedicate double figure FDEs nationwide to try to track all of this down.

I can give you a very short list—and I won't take too much of your time—but just some of the more recent projects that we've had underway. Dating back to 2003, we looked at incidents at Pittsburgh, Cleveland, San Antonio, Miami, Detroit; 2004, San Francisco; 2005, Bellingham, Charlotte, Cincinnati, Detroit, Las Vegas, Reno, Tucson; 2006, Orlando; 2011, Denver; 2011, Venice, and most recently, Los Angeles.

Over the course of the last 10 years, our office alone has identified well in excess of $400 million of revenue diversion or lost revenues. For instance, airport real estate sold for less than fair market value. That's money that, had the sale been conducted properly, should have been devoted to airport purposes under Federal law. But all of that happened.

That's not to say that those revenues, in some instances, could ever be recovered either by the agency or by the airport. But, in some instances, they can, and we and FAA try to track those instances down.

Senator COLLINS. Well, that's a very disturbing list of airports, because that suggests a widespread problem and with real money, hundreds of millions of dollars. That's the sort of thing we have to make sure we're providing enough resources for on the investigative front so that we can catch and deter that kind of activity.

Senator Moran, do you have anything further?

Senator MORAN. No. Thank you for the indulgence.

Senator COLLINS. Thank you.

I want to thank both of our witnesses for testifying today.

And, Administrator, I particularly want to recognize your first appearance before our subcommittee.

ADDITIONAL COMMITTEE QUESTIONS

I would announce that we will leave the hearing record open for 1 week for any additional questions for the record and would ask our witnesses to respond to those as quickly as possible.

[The following questions were not asked at the hearing, but were submitted to the Department for response subsequent to the hearing:]

QUESTIONS SUBMITTED BY SENATOR PATTY MURRAY

NEXTGEN MASTER SCHEDULE

Question. I continue to be concerned by the Federal Aviation Administration's (FAA's) track record with capital programs. Too many FAA programs go over budget, exceed their schedule, and do not deliver on all of their promises. This past year, the FAA proposed changes with the goal of improving program management. I was happy to approve FAA's reorganization that created the Program Management Office (PMO), which is designed to focus the agency on good management practices. Mr. Scovel, in your testimony, you discuss the need for FAA to integrate all of its Next Generation Air Transportation System (NextGen) programs. One year ago, the FAA concurred with your recommendation that it produce an integrated master schedule. By what date will the FAA produce this master schedule?

Answer. Consistent with Mr. Scovel's recommendation, the FAA is developing an Integrated Master Schedule (IMS). The NextGen IMS will track progress activities and milestones monthly for the pre-implementation and implementation programs.

By December 2013, the FAA IMS will include the linkages and dependencies among NextGen programs. This capability will strengthen program synchronization and alignments along with capturing the timeline for maturity of the NextGen programs. Further, we will continue to enhance the IMS as we revalidate the NextGen schedules and definitions of capabilities. In parallel, we will continue our effort to align the IMS with the NAS Enterprise Architecture (EA). This alignment will include all implementation activities through 2020.

ACQUISITIONS WORKFORCE

Question. The Inspector General has issued many recommendations on the importance of having an FAA workforce with expertise in acquisitions. This kind of expertise means hiring the right people and giving them the training they need. How will sequestration affect your ability to support the PMO and develop a strong acquisitions workforce?

Answer. The Federal Aviation Administration (FAA) continues to prioritize training and certification for the FAA's acquisition workforce. The agency views it as a necessary investment to ensure the FAA has a strong cadre of skilled acquisition professionals in order to effectively manage cost, schedule, and performance of agency acquisitions and contracts. The FAA has reduced training and travel budgets but is still supporting core training that is required for certification of contracting officers and specialists, contracting officer representatives, and program/project managers. The FAA is also continuing to offer core training to other acquisition specialists, such as system engineers, test and evaluation specialists, cost estimators, and integrated logistics specialists. However, reduced travel budgets are impacting the ability of some field personnel to attend training; local training is not available or there is an insufficient population to bring training onsite. Additionally, diminishing

staffing levels and support contractor resources are impacting the availability of personnel to attend training due to increasing job demands.

While the FAA remains committed to strengthening the skillsets of onboard acquisition staff, sequestration is impacting the FAA's ability to hire. The FAA has had to impose restrictions that broadly curtail hiring, including backfill hiring and career ladder promotions. While there are provisions for exceptions for critical needs, the expectation is that these will be very limited. Similarly, there is a general freeze on reassignment increases, performance awards, and retention incentives. A consequence of these restrictions is difficulty retaining staff. Experienced acquisition professionals are in high demand and FAA is beginning to see an increase in attrition. Losing highly skilled and experienced professionals, and staff managing increasingly complex acquisitions, erodes morale and puts the agency at risk for increased costs, disruptions, and delays. In addition to a shortage of senior, experienced professionals, a thinning pipeline of talent can have long term impacts.

To manage under these circumstances, the FAA is focused on developing current, available staff to best meet highest priority needs and strategies to retain personnel and organizational knowledge/expertise.

The FAA's Acquisition Workforce Council oversees planning and development of the acquisition workforce. The Council is in the process of updating FAA's Acquisition Workforce Plan. Through this process the FAA will reassess current and projected workload and staffing (including retirement and attrition data) and strategies to address requirements based on assumptions and constraints. The Acquisition Workforce Plan update is expected to be published in September 2013.

RUNWAY STATUS LIGHTS

Question. Recently, the FAA has recognized cost increases with the Runway Status Lights program. And I understand that the FAA may consider installing these lights at fewer locations in order to keep within the programs budget. What is the FAA doing to ensure that it delivers on all of the promises of the Runway Status Lights program? Under what circumstances would the agency decide to cut back on this program instead of making other adjustments to its budget?

Answer. Runway Status Lights (RWSL) is a costly system because it involves cutting into runways and taxiways in order to install the field lighting system. In addition, the FAA must rely on the airport to make the runways and taxiways available for suitable lengths of time so that construction costs don't become unwieldy.

At the time of the RWSL Final Investment Decision (FID) in January 2010, based on the economic analysis, only 13 airports provided a positive net present value; however, 23 airports were selected based on the cumulative program net present value. Moving forward, FAA is focusing on getting positive net present value for each airport installation both for this program and other capital investments.

In the time since the FID, the program experienced cost growth due to:

—changes in construction methods to costlier techniques;

—requests for additional light arrays;

—limited runway and taxiway availability; and

—additional development for supportability enhancements.

Cost containment measures were taken to address the cost growth and an affordability analysis was initiated. The affordability analysis included implementation progress to date, funds spent to date, life cycle costs, and the benefit cost ratio.

Taking into account all the relevant factors, the agency is considering a two-step approach to complete the deployment of RWSL. First, execute a plan to achieve operational status at the appropriate number of airports based on the affordability constraints and approved by the FAA Joint Resources Council. Second, develop a business case to address the remaining airports.

Employing good business practices, the approach forward for the remaining airports will take advantage of all methods of reducing runway incursions targeted at the specific airport environment. The agency is institutionalizing a new process that will be inclusive of airport partners to develop a comprehensive plan that will include a combination of innovative non-technology and technology solutions tailored for each airport environment. In order to achieve this tailored approach, the FAA has chartered a Surface Safety Team to, along with stakeholders:

—Evaluate the current set of surface technologies and risk assessment capabilities;

—Conduct additional risk analysis based on additional information available through voluntary reporting systems and Aviation Safety Information Analysis and Sharing (ASIAS);

—Develop portfolios of solutions to address identified causal factors; and,

—Identify funding solutions, including conditions for PFC and Grant eligibility, and cost sharing opportunities.

This Surface Safety Team began its work in February and is expected to complete its work by December 2013.

787/AIRCRAFT CERTIFICATION

Question. Given the size of the aviation industry in the United States, it is not possible for FAA employees to personally oversee everything that happens in the industry every day. To make the best use of its resources, the FAA has been moving to a risk-based approach. The agency has also taken advantage of employees who work in the aviation industry, but perform oversight work on behalf of the FAA. As part of its investigation into recent events with lithium batteries on the 787, the FAA has reviewed its own oversight of aircraft certification. What lessons has FAA learned from this review?

Answer. As part of our certification processes, the FAA determines its level of involvement in a given aspect of the design based on a number of risk-based factors, including the safety criticality of the design feature, the clarity of the requirements and guidance, and the experience/competency level of the applicant and their delegation system. Our level of involvement is not an "all-or-nothing" proposition. Rather, we fine tune our participation to match the specific situation. In the case of the 787 lithium batteries, our experienced electrical engineers maintained a high level of involvement, even in those cases where the formal test witnessing and documentation sign-off was delegated to the Boeing organization. Overall, we believe our certification processes are sound and effective in supporting our safety objectives.

There are two on-going 787 related activities we are involved with: National Transportation Safety Board (NTSB) investigation of the in-service battery events; and 787 Special Review Team which is conducting a comprehensive review of the Boeing 787 critical systems, including design, manufacture, assembly and coordination activities between Boeing and 787 suppliers.

We will carefully evaluate any recommendations from these activities with regard to further improvements to our overall certification processes and oversight methods.

AIRCRAFT CERTIFICATION

Question. The aviation industry continues to grow and innovate. The FAA's highest priority must always be safety, but its oversight still has to keep up with industry—making sure that new products meet the same standards for safety, but not at the expense of unreasonable delay.

What is the average time today to review and approve new proposals? Has this time increased or decreased in recent years?

Answer. Certification projects involve multiple milestones spanning the time period from initial proposal through FAA approval. The duration of each project is unique, with some being as short as one week and others spanning 6–8 years.

One area that has been a challenge for FAA has been the ability to take on numerous new projects. Since 2005, the FAA Aircraft Certification Service has used a process to prioritize the initiation of projects based on a number of considerations including the safety significance of the project, scope of the project and degree of FAA involvement.

Section 312 of the FAA Modernization and Reform Act of 2012 identified six areas for assessment and improvement. The FAA developed an implementation plan consisting of 14 initiatives to address the six areas. One of the initiatives seeks to improve the process and timeliness to initiate certification projects. The FAA developed the new process based on industry comments that better balances industry needs with FAA priorities and resources. The new process has been posted on the FAA Web site and the public comment period is open through July 2, 2013. Several industry representatives and associations have expressed favorable comments regarding the new process based on their initial review.

Question. Given what you have learned with the 787, how do you see the FAA continuing to improve aircraft certification?

Answer. While we believe our certification processes are effective in supporting our safety mission, we are always looking for ways to improve them. For that purpose, we plan to use the recommendations and lessons learned that will come from NTSB's investigation of the 787 battery and the 787 Special Review Team.

We believe any recommendations that come from these activities will strengthen the work that has been underway for several years within the Aircraft Certification Service to build a stronger, system-based approach to our certification, continued

operational safety, and oversight processes. These efforts fully support the FAA commitment to develop and implement an overall Safety Management System.

Question. The FAA Modernization and Reform Act of 2012 required the FAA to assess its certification process and report on the FAA's recommendations. That report was due 180 days after enactment. What is the status of this effort?

Answer. The Aircraft Certification Process Review and Reform (ACPRR) Aviation Rulemaking Committee (ARC) submitted the following recommendations to the Director of Aircraft Certification on May 22, 2012:

1. Development of Comprehensive Means To Implement and Measure the Effectiveness of Implementation and Benefits of Certification Process Improvements;
2. Enhanced Use of Delegation;
3. Integrated Roadmap and Vision for Certification Process Reforms;
4. Update Part 21 To Reflect a Systems Approach for Safety;
5. Culture and Change Management; and
6. Process Reforms and Efficiencies Needed for Other Aircraft Certification Service (AIR) Functions.

Recommendations from the ARC were included in a report provided to Congress on August 13, 2012. The FAA fully supports these recommendations and developed a comprehensive implementation plan consisting of 14 initiatives addressing each item. Implementation actions began in 2012, in advance of the act requirement to begin implementation no later than February 14, 2013.

Question. Will you be able to make these improvements in time to develop the fiscal year 2015 budget request? Or even the fiscal year 2016 budget request?

Answer. The fiscal year 2015 budget request will use existing model formulas to forecast resource requirements. As we improve and revise the model for these labor challenges, these will be incorporated in the fiscal year 2016 request.

For fiscal year 2016, the Flight Standards portion of the model will incorporate improvements that will provide more accurate staffing forecasts. The Aircraft Certification Service portion of the model does not require algorithm revisions for staffing forecast. Aviation Safety (AVS) will use December 2012 and 2013 Flight Standards Service (AFS) Staffing Tool and Reporting System (ASTARS) model data results to formulate our fiscal year 2015 and 2016 budget requests respectively.

PERFORMANCE-BASED NAVIGATION

For the past couple of years, the FAA has been working on its metroplex initiative. This initiative brings teams of FAA employees to major airports across the country to work with local stakeholders and develop better procedures. These procedures rely on performance-based navigation, which means that each and every aircraft must be equipped with the right technology. Some of these avionics are more advanced and can take advantage of more precise procedures. The FAA has been developing these procedures for a long time, but with the metroplex initiative, the FAA has finally shown that it is placing a priority on procedures that will be used after these teams leave the airport. A key element of NextGen has been the idea that the best equipped aircraft will be able to take advantage of the best procedures. But to ensure that procedures are being used, they need to accessible to the largest number of aircraft.

Question. Can the FAA develop procedures that will be used on a regular basis and also follow a policy of "best equipped-best served"?

Answer. The Federal Aviation Administration (FAA) has developed, published, and maintained over 20,812 conventional and Area Navigation (RNAV) Standard Instrument Approach Procedures (i.e., ILS/VOR/RNAV/RNP AR/WAAS/GLS), Standard Instrument Departures and Standard Terminal Arrivals, and 1,193 low and high altitude routes (i.e., Victor Airways, Jet Routes, Q, T, and TK) for use by users (i.e., airlines, business, general aviation, Department of Defense (DOD)) of the National Airspace System (NAS).

These public procedures are available for use by all entities identified above, provided that aircraft are properly equipped and maintained, the aircrew is properly trained and certified, and the flight operations to be performed are authorized and conducted in accordance with various FAA directives and other documents, as appropriate.

While these procedures are not segregated or developed in a manner that follows a policy of "best equipped-best served" per se, aircraft and aircrews that meet the aforementioned criteria can certainly take advantage of operational and economic benefits provided by more advanced Performance Based Navigation routes and procedures. This promotes the drive for greater investment in upgrades to flight planning capability, equipage and training on the user side, as the FAA continues to modernize the NAS through its efforts under NextGen.

Question. Two years ago, FAA data showed a dramatic increase in operational errors made by its air traffic controllers. That year, the FAA had also been making changes in how such errors were reported, so FAA has never been able to determine how many of those errors were due to better data collection and how many were due to an actual increase in controller errors. But even today, the FAA has not been able to establish a new baseline that it can use to measure any improvement in its performance. When will the FAA be able to establish a baseline for operational errors?

Answer. As a result of FAA improvements in reporting and monitoring systems during the last 2-plus years, the agency has indeed experienced a significant increase in the number of reported operational incidents. While the FAA cannot prove with 100 percent certainty that the entire increase in reporting is related to improvements in policy, procedures, and tools, those increases occurred concurrent to the deployment of those improvements and the likelihood of the associated increases is statistically high.

Those new capabilities were implemented methodically throughout the National Airspace System beginning on January 30, 2012, and we are nearly finished with the implementation of all planned improvements. For example, the implementation of electronic radar monitoring in the terminal environment via the Traffic Analysis and Reporting Program (TARP) was rolled out from January to September 2012. The last program to be implemented is TARP for en route facilities which we began deploying in May 2013, and expect to be fully implemented by September 2013.

Best practices for performance measurement typically use 2 full years of good data to establish a new baseline; meaning that the FAA will have a new official baseline for Operational Incidents in October 2015. However, by October 2014, the FAA expects to have 1 full year of full reporting and will establish new goals for the current System Risk Event Rate (SRER) metric.

As part of its strategy to move beyond traditional reporting of one dimensional safety metrics, in 2011, the FAA introduced a new metric: the System Risk Event Rate (SRER). The SRER represents a move away from legacy safety indicators consisting of merely counting losses of separation and a move toward a metric that illuminates, with far greater precision, the frequency and rate of high-risk events across the NAS. The SRER is a 12-month rolling rate that compares the number of high-risk Risk Analysis Events (RAEs) with the total number of validated losses of standard separation that have occurred. As expected, the vast increase in reported safety data in 2012 has resulted in an increase in the overall number of events and RAEs reported. However, it is notable that even with a significantly greater number of recorded events and a higher number of reported RAEs, the total number of high-risk events has remained low.

RETENTION BONUSES

Question. Please provide a table for fiscal year 2012, and another for fiscal year 2013, listing the title, office, and salary of each FAA employee that received a retention bonus during that year, as well as the amount of the retention bonus itself.

Answer.

FISCAL YEAR 2012 RETENTION INCENTIVES—FAA

Organization	Position title	Salary	Retention percent	Retention amount
ATCT NANTUCKET, MA	AIR TRAFFIC CONTROL SPEC	$85,356	10	[1] $8,536
ATCT NANTUCKET, MA	AIR TRAFFIC CONTROL SPEC	84,006	10	[1] 8,401
ATCT NANTUCKET, MA	AIR TRAFFIC CONTROL SPEC	76,267	10	[1] 7,627
ATCT NANTUCKET, MA	AIR TRAFFIC CONTROL SPEC	76,267	10	[1] 7,627
ATCT NANTUCKET, MA	AIR TRAFFIC CONTROL SPEC	86,037	10	[1] 8,604
ATCT NANTUCKET, MA	AIR TRAFFIC CONTROL SPEC	106,684	10	[1] 10,668
ATCT NANTUCKET, MA	AIR TRAFFIC CONTROL SPEC	67,780	10	[1] 6,778
ATCT NANTUCKET, MA	AIR TRAFFIC CONTROL SPEC	85,356	10	[1] 8,536
ATCT NANTUCKET, MA	AIR TRAFFIC CONTROL SPEC	85,788	10	[1] 8,579
ATCT NANTUCKET, MA	AIR TRAFFIC CONTROL SPEC	42,319	10	[1] 4,232
ATCT NANTUCKET, MA	AIR TRAFFIC CONTROL SPEC [2]	43,589	10	[1] 4,359
ATCT NANTUCKET, MA	AIR TRAFFIC CONTROL SPEC	76,267	10	[1] 7,627
ATCT NANTUCKET, MA	AIR TRAFFIC CONTROL SPEC	76,267	10	[1] 7,627
ATCT NANTUCKET, MA	AVIATION ASSISTANT	43,102	10	[1] 4,310
ATCT NANTUCKET, MA	AIR TRAFFIC CONTROL SPEC	84,006	10	[1] 8,401
ATCT NANTUCKET, MA	AIR TRAFFIC CONTROL SPEC	76,267	10	[1] 7,627

FISCAL YEAR 2012 RETENTION INCENTIVES—FAA—Continued

Organization	Position title	Salary	Retention percent	Retention amount
ATCT NANTUCKET, MA	SUPV AIR TRAFFIC CONTROL SPEC.	119,972	10	[1] 11,997
ATCT NANTUCKET, MA	AIR TRAFFIC CONTROL SPEC	76,267	10	[1] 7,627
ATCT NANTUCKET, MA	AIR TRAFFIC CONTROL SPEC	89,879	10	[1] 8,988
ATCT PORTLAND, ME	AIR TRAFFIC CONTROL SPEC [2]	89,879	20	17,976
HQ-AIR TRAFFIC ORG WASHINGTON, DC	DEPUTY CHIEF OPERATING OFFICER [3].	179,700	24.38	42,500
HQ-HUMAN RESOURCE MGT WASHINGTON, DC.	SUPV HUMAN RESOURCES SPEC	161,736	25	40,434
SSC NANTUCKET, MA	AIRWAY TRANSP SYS SPEC	103,830	20	[1] 20,766
SSC NANTUCKET, MA	AIRWAY TRANSP SYS SPEC	79,026	20	[1] 15,805
HQ-HUMAN RESOURCE MGT WASHINGTON, DC.	MGT & PROG ANALYST	141,735		[4]

[1] Denotes continuation of a group incentive authorized to supplement the pay of employees at an extraordinarily high cost location (Nantucket Island) that is included in the ''Rest of U.S.'' locality pay area.
[2] Denotes the same employee as row directly above this one—location changed or modified agreement.
[3] Retired 9/30/12.
[4] Denotes an incentive that was stopped upon expiration or review showing incentive no longer needed.

FISCAL YEAR 2013 RETENTION INCENTIVES—FAA

Organization	Position title	Salary	Retention percent	Retention amount
ATCT NANTUCKET, MA	SUPV AIR TRAFFIC CONTROL SPEC.	$90,478	10	[1] $9,048
ATCT NANTUCKET, MA	AIR TRAFFIC CONTROL SPEC	84,006	10	[1] 8,401
ATCT NANTUCKET, MA	AIR TRAFFIC CONTROL SPEC	76,267	10	[1] 7,627
ATCT NANTUCKET, MA	AIR TRAFFIC CONTROL SPEC [2]	76,267		[1 3]
ATCT NANTUCKET, MA	AIR TRAFFIC CONTROL SPEC	86,037	10	[1] 8,604
ATCT NANTUCKET, MA	AIR TRAFFIC CONTROL SPEC	106,684	10	[1] 10,668
ATCT NANTUCKET, MA	AIR TRAFFIC CONTROL SPEC	20,324	10	[1] 2,032
ATCT NANTUCKET, MA	AIR TRAFFIC CONTROL SPEC	76,267	10	[1] 7,627
ATCT NANTUCKET, MA	AIR TRAFFIC CONTROL SPEC	85,356	10	[1] 8,536
ATCT NANTUCKET, MA	AIR TRAFFIC CONTROL SPEC	85,788	10	[1] 8,579
ATCT NANTUCKET, MA	AIR TRAFFIC CONTROL SPEC	67,780	10	[1] 6,778
ATCT NANTUCKET, MA	AIR TRAFFIC CONTROL SPEC	76,267	10	[1] 7,627
ATCT NANTUCKET, MA	AIR TRAFFIC CONTROL SPEC	76,267	10	[1] 7,627
ATCT NANTUCKET, MA	MGT & PROGRAM ASSISTANT	46,550	10	[1] 4,655
ATCT NANTUCKET, MA	AIR TRAFFIC CONTROL SPEC	84,006	10	[1] 8,401
ATCT NANTUCKET, MA	AIR TRAFFIC CONTROL SPEC	76,267	10	[1] 7,627
ATCT NANTUCKET, MA	SUPV AIR TRAFFIC CONTROL SPEC.	119,972	10	[1] 11,997
SSC NANTUCKET, MA	AIRWAY TRANSP SYS SPEC	103,830	20	[1] 20,766
SSC NANTUCKET, MA	AIRWAY TRANSP SYS SPEC	79,026	20	[1] 15,805
ATCT PROVIDENCE, RI	AIR TRAFFIC CONTROL SPEC	83,375		[3]
TRACON CAPE, OTIS AFB, MA	AIR TRAFFIC CONTROL SPEC	87,753		[3]
HQ-HUMAN RESOURCE MGT WASHINGTON, DC.	SUPV HUMAN RESOURCES SPEC	166,265	25	[4] 41,566

[1] Denotes continuation of a group incentive authorized to supplement the pay of employees at an extraordinarily high cost location (Nantucket Island) that is included in the ''Rest of U.S.'' locality pay area.
[2] Denotes the same employee as row directly above this one—location changed or modified agreement.
[3] Denotes an incentive that was stopped upon expiration or review showing incentive no longer needed.
[4] Retention payments terminated 6/3/13.

Question. Please describe the FAA's process for approving retention bonuses.

Answer. An employee's manager may request a Retention Incentive when the employee has unique qualifications or there is a special need for the employee's services which makes it essential to retain the employee. The employee must be likely to leave the Federal service in the absence of a retention incentive and have a performance rating of acceptable. The employee must have completed a minimum of 1 year of continuous service with FAA, immediately prior to receiving the incentive, or have been employed by FAA for a period established under a service agreement resulting from the payment of a recruitment or relocation incentive, whichever is longer.

The requesting office must complete an Authorization Request form. The form has the employee's position information, salary, requested amount, and other information required to process the incentive request. It also includes sections for narrative justification that are designed to present the business reasons for the incentive and to address the various factors prescribed by the Department of Transportation policy, Departmental Personnel Manual (DPM), chapter 575, Recruitment, Relocation, and Retention Incentives. Finally, the form has a concurrence/approval section with signature blocks to facilitate the review and approval process.

Along with the form, any supporting documentation that may be necessary to support the request is added to the package. This may include the employee's latest performance assessment, documentation of an outside job offer, or documentation of any other expression of the employee's intention to leave Federal service absent an incentive. The package will also usually include an FAA Retention Incentive Service Agreement that outlines the conditions that the employee must agree to while receiving the incentive, such as the payment method, agreement termination and repayment liability rules, and specific performance objectives that the Line of Business or Staff Office (LOB/SO) has identified to be achieved or maintained in exchange for the retention incentive.

Requests are initiated by the employee's manager and forwarded through channels to the head of the employee's LOB/SO within the FAA. If the Head of the LOB/SO concurs, the request is forwarded for review by the servicing Human Resource Management Office to validate any staffing information outlined in the request and to ensure compliance with FAA policy. The request is then presented to the Assistant Administrator for Human Resource Management for concurrence.

The FAA administrator considers the request as the Reviewing Official. Only requests approved by the FAA administrator are forwarded to the Department of Transportation, Office of the Secretary for consideration. At the Department, the request first goes to the Departmental Office of Human Resource Management (DOHRM) for technical review to ensure it meets the requirements outlined in DPM–575 and FAA policy. The DOHRM office forwards each request to the Assistant Secretary for Administration for consideration. When the requested incentive amount is 25 percent or less of the employee's basic salary rate times the number of years required by the service agreement, the Assistant Secretary for Administration makes the final decision and serves as the Approving Official. If the amount requested exceeds that 25 percent amount, the request must be forwarded to the Deputy Secretary of Transportation for decision as the Final Approving Official.

The DOHRM notifies the FAA's Assistant Administrator for Human Resource Management of the final decision.

QUESTIONS SUBMITTED BY SENATOR DIANNE FEINSTEIN

UNMANNED AIRCRAFT SYSTEMS

Question. Under the 2012 Federal Aviation Administration (FAA) Modernization and Reform Act, the FAA is directed to develop a "comprehensive plan" to integrate unmanned aircraft into the national airspace. The law sets a deadline for the integration of "civil" drones—those in private hands—by "no later than September 30, 2015." It also instructs the FAA to integrate "public" drones—those in Government hands—on an expedited basis.

I believe the integration of drone technology poses serious privacy risks—especially the danger of unwanted surveillance of the individual.

Will you assure this subcommittee that the FAA will work with other appropriate agencies and Congress to establish rules protecting Americans' privacy before drones are integrated into the national airspace?

Answer. The FAA engaged our interagency partners (including the National Aeronautics and Space Administration (NASA), the Department of Defense (DOD), and the Department of Homeland Security (DHS)) and sought input in the development of the FAA proposed privacy approach for the Unmanned Aircraft Systems (UAS) test sites.

The FAA is analyzing the public input received regarding its proposed approach to include terms and conditions in the "other transaction agreement" (OTA) that would, among other things, require operators to develop privacy policies and make them publicly available. By the end of July 2013, the FAA plans to finalize the terms to include in the OTAs with the test site operators. The FAA will continue to work with appropriate agencies on the issue of privacy protection.

UNMANNED AIRCRAFT SYSTEMS TEST RANGES

Question. Under the 2012 FAA Modernization and Reform Act, the FAA is directed to select six "test ranges" for the integration of drones into the national airspace. These test ranges are supposed to help develop certification standards, air traffic requirements, and to provide for verification of the safety of unmanned aircraft before their integration into the national airspace.

What specifically does the FAA plan to test at these test ranges?

Answer. We will consider how well an applicant's research goals align with the overarching goal of safely integrating UAS into the National Airspace System. In order to be selected as a site operator, the applicant must have a sound research plan consistent with the minimum areas identified in the FAA Modernization and Reform Act of 2012.

Question. Where will these drones fly when they are being tested? Will they be flown over populated areas?

Answer. The exact location of the test ranges will not be known until the six test sites are selected. However, the selection process takes into consideration the test site operator's ability to assure the safety of people and property on the ground. The Screening Information Request contains nine specific safeguards to protect persons and property that must be addressed by the applicants. The FAA plans to complete the test site selection process by the end of 2013.

Question. How can we be sure that these drones will not interfere with manned aircraft traffic?

Answer. The evaluation will assess the applicant's ability to protect the safety of manned aircraft operations in or near the test range. Only sites with sound methods for protecting the safety of manned aircraft and people and property on the ground will be selected. The sites will not be authorized to operate until the FAA evaluates and approves the safety system.

Question. I assume these test ranges will not be placed in highly populated areas—where the issues of safety and privacy would be most acute. Is that correct?

Answer. The exact location of the test ranges will not be known until the six test sites are selected. However the selection process takes into consideration the test site operator's ability to assure the safety of people and property on the ground. The Screening Information Request contains nine specific safeguards to protect persons and property that must be addressed by the applicants.

Question. Sites all across the country, including two in California, are competing to be these "test ranges." Press reports say there are as many as 50 applicants in 37 States. The solicitation document ("Screening Information Request") includes a number of factors for the FAA to consider in deciding where to put these test sites. I am deeply concerned that it accords no weight to whether an applicant has a better approach to privacy. Instead, the FAA put out its own privacy document for notice and comment. This simply says that applicants will be required to have a "privacy policy," without specifying what (if anything) that policy must contain.

Why has privacy been omitted as a factor in choosing these test ranges?

Answer. The selection criteria incorporate factors that Congress directed the FAA to consider in the FAA Modernization and Reform Act: geographic and climatic diversity, location of ground infrastructure, and research needs. In March 2012, the FAA published a request for comments in the Federal Register, and in April 2012, FAA hosted two public webinars to obtain public input on the FAA proposed selection criteria. Although there was substantial public participation, the FAA did not receive comments advocating that privacy should be used as a factor in choosing the test sites.

Subsequently, the FAA determined that it should address privacy considerations at the six test sites. The FAA elected to do so by proposing that the test sites comply with all applicable privacy laws and policy that they establish privacy policies that are informed by Fair Information Practice Principles—an approach that has been successfully applied by Government agencies in other contexts.

Question. The FAA has already amended its solicitation document—most recently on March 20. Will FAA amend the solicitation again to make sure privacy is included as a factor in choosing the test sites? If not, why not?

Answer. The FAA engaged our interagency partners (including NASA, DOD, and DHS) and sought public input in the development of the FAA proposed privacy approach for the UAS test sites.

Rather than address privacy issues in the solicitation, each selected operator will be required to enter into an Other Transaction Agreement (OTA) with the FAA, which will set out the terms and conditions under which the entity will operate the UAS Test Site. The agreement will include a requirement for each operator to publish and comply with its privacy policy as it relates to the test sites.

Question. You testified at the hearing: "we're not in a position to make a determination of the content of the [privacy] plan, but what we would require is that [a test range] develop one, that they make it available to the public, and it is available for people to read and understand." Thus, according to your testimony, a privacy policy could essentially be devoid of content and still qualify. Why not—perhaps in consultation with the Federal Trade Commission or privacy advocates—make sure that the privacy policies adopted by the test ranges are strong, not weak?

Answer. FAA will require the site operator to develop a privacy policy that is informed by Fair Information Practice Principles.

The FAA has required each test site operator to be a public (governmental) entity and to publicly post its privacy policy. This promotes transparency and allows local stakeholders to ensure that the public entity operating the site develops privacy policies that address local concerns. The FAA believes that a public entity will be responsive to local stakeholder concerns.

Question. You testified at the hearing: "privacy is not something Congress asked us to look at, nor is it something that the FAA has the authority to regulate." But the portion of the 2012 FAA Modernization and Reform Act directed at unmanned aircraft clearly recognizes that unmanned aircraft have unique attributes that demand separate attention. One of those attributes is the unique privacy risks they pose. The law directs FAA to develop a "comprehensive plan to safely accelerate the integration of civil unmanned aircraft systems into the national airspace system," which will then form the basis for final regulations. A plan that is "comprehensive" would include the paramount issue of privacy. In addition, the law lists a variety of broadly-phrased issues (mostly related to safety) that must be accounted for in the plan—but it also clearly says that these are the absolute "minimum" of what the plan must contain. It does not prevent FAA from considering the issue of privacy. Finally, the FAA's approach to date seems inconsistent with your statement. So far, FAA has put out a privacy document for notice and comment with respect to the six test ranges. This is supposed to result in a privacy strategy incorporated into FAA's agreement with the test ranges that are selected. Is it truly FAA's view that it has no authority over the issue of privacy and unmanned aircraft?

Answer. The FAA has authority in 49 U.S.C. 106(l)(6) to issue the site operators an "other transaction agreement" (OTA) that will contain the legally binding terms and conditions under which the entity will operate the UAS site. That statute provides, in pertinent part:

"The Administrator is authorized to enter into and perform such . . . other transactions as may be necessary to carry out the functions of the Administrator and the Administration. The Administrator may enter into such . . . other transactions with . . . any State, territory, or possession, or political subdivision thereof . . . on such terms and conditions as the Administrator may consider appropriate."

Due to the concerns relating to privacy at the test sites, the FAA has proposed including terms in each OTA that will require site operators to establish a privacy policy.

Although the authority in 49 U.S.C. 106(l)(6) allows the FAA to set the terms under which the test sites will operate, it does not authorize the FAA to establish privacy policy for manned or unmanned aircraft operations generally.

UNMANNED AIRCRAFT SYSTEMS AIRWORTHINESS CERTIFICATES

Question. There are many FAA regulations that apply to private aircraft, which are called "civil aircraft" under FAA regulations. These regulations include the requirement that a civil aircraft be certified as airworthy, as well as the requirement that a civil aircraft be operated by a licensed airman. However, a great many of these regulations do not apply to "public aircraft"—meaning those operated by government agencies like a local police or fire department. Thus, FAA regulation of police and other public aircraft generally is quite limited. For example, as I understand it, public aircraft are not required to have FAA airworthiness certificates, and those who fly them are not required to have FAA airman certificates. This regulatory approach is especially problematic with respect to drones, which raise a whole host of safety and privacy issues that are not raised by ordinary manned aircraft. Section 334 of the 2012 FAA Modernization and Reform Act can be read to address this issue. It specifically provides the FAA with authority over "public unmanned aircraft systems," meaning those operated by governmental agencies. It specifically directs the FAA to "develop and implement operational and certification requirements for the operation of public unmanned aircraft systems."

Can you confirm that FAA intends to require (1) airworthiness certificates and (2) airman certificates with respect to the operation of civil unmanned aircraft?

Answer. Acceptable standards for civil unmanned aircraft systems are under development in concert with the Radio Technical Commission for Aeronautics (RTCA) under the new special committee (SC) 228. Requirements for certificate of authorization/experimental category have already been published.

Question. Will these requirements—in particular the airman certificate—be different for the operation of an unmanned aircraft, which in many respects is unlike an ordinary manned aircraft?

Answer. The FAA will work with industry to develop standards for licensing civil pilots of unmanned aircraft. FAA is in the process of determining whether or not any regulatory changes are possibly needed.

Question. Does FAA believe it possesses the authority to require an airworthiness certificate or an airman certificate with respect to public unmanned aircraft operations under section 334 of the 2012 act? If so, does FAA intend to use that authority?

Answer. The FAA intends to comply with the provisions of the FAA Modernization and Reform Act's section 334 on Public Unmanned Aircraft Systems. The current regulatory structure requires public operators to make their own finding of compliance using their processes. FAA will issue guidance regarding a public entity's responsibility when operating an unmanned aircraft without a civil airworthiness certificate issued by the FAA. FAA is in the process of determining whether or not any regulatory changes are possibly needed.

GOVERNMENT ACCOUNTABILITY OFFICE REPORT ON UNMANNED AIRCRAFT SYSTEMS

Question. There remain serious concerns about whether drones can be safely integrated into the national airspace. I direct your attention to a September 2012 Government Accountability Office (GAO) report, which noted the following:

"GAO Reported in 2008 that UAS could not meet the aviation safety requirements developed for manned aircraft and that this posed several obstacles to safe and routine operation in the national airspace system. These obstacles still exist. . . ."

The report, beginning at page 14, goes into detail about the serious issues that remain to be considered and addressed. As it notes: "To date, no suitable technology has been deployed that would provide UAS with the capability to sense and avoid other aircraft and airborne objects."

The report also cites other issues, including vulnerabilities in command and control, unreliable UAS performance, the issues created by the separation of pilot and aircraft, and the transition to Next Generation Air Transportation System (NextGen).

Is there currently technology that would allow a drone to detect, sense, and avoid other aircraft?

Answer. Air Force Research Labs and NASA have demonstrated new technologies that are capable of detecting proximate aircraft and avoiding them. A standard to allow the certification of these technologies is under development by RTCA. The schedule for completion of the standard is mid-2016.

Question. How are the other issues discussed in the GAO report being addressed?

Answer. The FAA has tasked RTCA to develop standards for radios used in command and control functions in the portion of the spectrum allocated to safety of life uses. These standards will address many of the issues identified in the GAO report and allow for civil aircraft certification. The radio standards are scheduled for mid-2016.

Question. If sense-and-avoid technology is not in place and other safety issues highlighted by GAO are not addressed, would FAA nevertheless proceed with full integration of UAS into the national airspace system?

Answer. The primary mission of the FAA is safety. The FAA will only proceed with integration of UAS once safety issues have been appropriately addressed.

ARMED DRONES

Question. The question of armed drones has, as you may know, gotten a great deal of attention in Congress lately. One issue that appears unsettled is whether current FAA regulations prohibit the arming of a civilian aircraft, including a drone. Under FAA regulations, 14 CFR section 91.15: "No pilot in command of a civil aircraft may allow any object to be dropped from that aircraft in flight that creates a hazard to persons or property. However, this section does not prohibit the dropping of any object if reasonable precautions are taken to avoid injury or damage to persons or property."

This regulation has been cited as authority for the point that FAA would not allow a civil unmanned aircraft to have a weapon affixed to it. Is this correct?

Answer. FAA Regulation 14 CFR section 91.15 is used to determine the safety of installed equipment. This regulation currently prohibits the use of weapons on an aircraft.

Question. Will FAA be more explicit in regulations that civil unmanned aircraft may not have weapons affixed to them?

Answer. FAA Regulation 14 CFR section 91.15 is used to determine the safety of installed equipment. This regulation prohibits the use of weapons on an aircraft. However, FAA continues to evaluate whether or not regulatory changes are needed.

GRANTS-IN-AID FOR AIRPORTS

Question. The FAA's Grants-in-Aid for Airports, or the Airport Improvement Program (AIP), is the primary FAA program investing in runways, taxiways, and airport infrastructure. In fiscal year 2012, Congress appropriated $3.35 billion. The President's budget proposes to cut this to $2.9 billion.

The needs of our commercial airports substantially outpace these resources. But a disproportionate amount of this program's funding (25–35 percent) is spent at airports without any commercial service on which almost all Americans travelers depend.

25 to 35 percent is spent at noncommercial airports even though noncommercial aviation fuel taxes account for about 1 percent of the total Airport and Airway trust fund revenues each year.

Unfortunately, the FAA's fiscal year 2014 budget proposes to prioritize airports without commercial service for Airport Improvement Program funds. The budget proposes that large hub airports cover their infrastructure costs by raising passenger facilities charges.

Is it fair that only 65–75 percent of AIP funding is spent at airports with commercial service when commercial aircraft account for 99 percent of revenue to the Airport and Airway Trust Fund?

Answer. This is fundamental to the safety, efficiency and sustainability of the air transportation system. The perceived disparity between the source of Trust Fund revenues and the types of facilities it supports reflects the fundamental structure of the overall U.S. system of airports. Since the early 1900s, Federal policy has determined it is in the public interest to support a nationally integrated aviation system citing the benefits derived from maintaining a diverse geographic network of airports. Such a system facilitates rural and remote access, supports military and law enforcement needs, expedites emergency and disaster response, and ensures the timely transport and delivery of commercial goods. Moreover, many of the smaller, non-commercial facilities provide alternatives to airports handling commercial passengers, thereby reducing congestion and delay at commercial service airports. The functions supported by these smaller airports are critical. In 2012, the FAA published a study outlining a broad range of critical roles and functions the smaller airports serve, from basic access to flight training, emergency response, agricultural support, aerial firefighting, and many others.

The larger commercial airports, especially large hub airports, have access to other means of capital, including, airport bonds and passenger facility charges (PFCs), not available to the smaller airports.

For more than 30 years, the Airport Improvement Program (AIP) has helped State and local governments plan, develop, improve, and maintain a broad-based system of integrated airport facilities. The AIP provides capital funding to support 3,330 public use airports, heliports, seaplane bases, and landing areas included in the federally-mandated National Plan of Integrated Airport Systems (NPIAS).

Question. Would the FAA support a provision requiring that at least 75 percent of Airport Improvement Program Funding be spent at commercial airports?

Answer. The FAA does not support either limiting the number of airports funded or the reducing the minimum level of funding provided to airports that are classified as non-commercial service airports.

Question. Which investment is likely to benefit the greatest number of Americans: improving airports with commercial service or improving airports without any commercial service?

Answer. The national integrated system needs to be maintained as a whole, with both categories of airports (commercial and non-commercial) able to meet the needs of the users that rely upon them, both directly and indirectly. While people are most familiar with the commercial air travel benefits offered at the 511 commercial service airports in the United States, nearly 3,000 smaller general aviation airports form an extensive airport network and make important social and economic con-

tributions to society. In 2009, non-airline operators at general aviation airports flew an estimated 27 million flights for emergency medical services, aerial fire-fighting, law enforcement and border control, agricultural functions, flight training, time-sensitive air cargo services, search and rescue, and business travel. Many of these functions cannot be safely, efficiently, or economically supported at larger commercial service airports.

In addition to providing unique general aviation benefits, non-commercial service airports provide a critical safety and efficiency complement to commercial service airports. Because of their sheer number and geographic distribution, general aviation airports provide a safety net to support commercial operators in the event of emergency aircraft diversions, medical emergencies, deteriorating weather conditions, or mechanical failures. In high-density metropolitan areas, general aviation airports act as "relievers" for congested commercial service airports by supporting high-volume activity by smaller and slower aircraft.

In summary, it is crucial to our national life and economy that we continue to support both commercial-service and general aviation airports. The Airport Improvement Program has evolved over more than 30 years to achieve precisely that goal.

HELICOPTER NOISE

Question. The fiscal year 2013 Senate Transportation, Housing and Urban Development, and Related Agencies (THUD) report stated: "The Committee recognizes that the use of helicopters in Los Angeles County produces quality of life and safety impacts, prompting requests for FAA action. The Committee directs the FAA to solicit the views of interested parties, including representatives of local communities, regarding helicopter noise and safety issues in Los Angeles County no later than 90 days after the enactment of this act. The committee further directs the FAA to lead a collaborative effort with community representatives, elected officials, helicopter operators, and other affected interests to: (1) identify specific concerns with helicopter operations, including noise; (2) evaluate options that would respond to identified concerns including, but not limited to routes, operating altitudes, and hovering practices; and (3) develop solutions to the identified issues consistent with the FAA's statutory responsibilities. Potential solutions should not restrict helicopter operations needed for emergency, law enforcement, or military purposes. The committee directs the FAA to submit a report to the House and Senate Appropriations Committee within 12 months of enactment of this act regarding the helicopter concerns in Los Angeles County that have been identified, the progress in addressing these concerns including reasons why some measures were not retained for further study, and the mechanisms for implementing measures and monitoring their continuing effectiveness." In response, FAA Regional Administrator Bill Withycombe has held public hearings and is studying the problem. He has committed to releasing a report in May 2013 evaluating a full set of voluntary and regulatory options to reduce helicopter noise and address safety issues. The report is a necessary first step. But it must be followed by effective regulations.

During the hearing, we were able to discuss this. You indicated that "non-regulatory" approaches to this problem were preferable because they could be implemented more quickly. However, I am very concerned that voluntary efforts are less effective than regulatory approaches. For instance, on Long Island, New York, FAA established voluntary routes for helicopters in 2008 without success. The FAA finally completed regulations imposing mandatory routes in 2012.

If past voluntary efforts to curb helicopter noise above both Los Angeles and Long Island failed, why does the FAA believe that "non-regulatory" options will succeed above Los Angeles as a result of this latest effort?

Answer. The FAA has had decades of success with fixed-wing aircraft, voluntary noise abatement measures that can be applied to noise abatement measures for helicopters. The FAA does not regard the voluntary efforts in New York or Los Angeles as a failure. In fact, the voluntary route along the north shore of Long Island, which was developed with input from local helicopter operators and airports, reportedly had a high rate of compliance and formed the basis for the regulation adopted last year.

In contrast with the north shore of Long Island, the density of land use and the diversity of helicopter activity in Los Angeles make it difficult to identify noise abatement routes that would avoid residential areas. Some efforts to revise Visual Flight Rules (VFR) helicopter approach and departure tracks for Los Angeles-area airports to minimize noise have not yet produced feasible noise abatement routes. This reflects the challenges of safely routing aircraft in an urbanized environment rather than a failure of the collaborative process used to develop routes. These chal-

lenges make it more important to fully engage both the residents and helicopter operators in addressing noise issues in Los Angeles.

A significant positive development of the current Los Angeles Helicopter Noise Initiative is that it has brought together community representatives and helicopter operators to consider, in conjunction with the FAA, specific noise-sensitive locations and helicopter operating practices that contribute to noise concerns on a regional scale. The group is committed to identifying measures that will provide noise relief without degrading safety or eroding business opportunities. This initiative has already identified targeted measures that can provide noise relief to residents. The FAA recommends the continued engagement of a robust local process and is prepared to support such a process to pursue remedies that will reduce helicopter noise, are responsive to community quality-of-life and economic interests, and are consistent with National Airspace System safety and efficiency.

Question. Which approach to helicopter noise is most likely to reduce noise disturbance on the ground: regulatory or non-regulatory options?

Answer. Success in reducing noise on the ground is directly related to the availability of effective noise abatement procedures, rather than the implementation mechanism. If a procedure can be designed to minimize noise impacts on residential or other noise-sensitive areas, a non-regulatory approach can provide just as much noise relief as a regulatory approach.

The most effective and widely-accepted noise abatement measures are those that are developed in collaboration with stakeholders and are supported by local consensus. The FAA's experience is that voluntary noise abatement procedures have a high degree of compliance when operators can use them safely and efficiently. The current Los Angeles Helicopter Noise Initiative identifies actions and flexible approaches that offer the best opportunity to address helicopter noise issues within the Los Angeles County.

QUESTIONS SUBMITTED BY SENATOR FRANK R. LAUTENBERG

FURLOUGHS' IMPACTS ON FACILITIES

Question. The airspace over New Jersey is among the most congested in the country, with Newark Liberty Airport serving more than 33 million passengers each year. The Federal Aviation Administration (FAA) has said it intends to apply sequestration in a way that prioritizes safety and impacts the fewest air travelers. I have long been concerned with the understaffing of air traffic controllers at Newark Liberty and I am concerned the sequestration-imposed air traffic controller furloughs will disproportionately impact this airport.

In applying furloughs for air traffic controllers, did you account for the additional impact on facilities that are already understaffed prior to sequestration, such as the Newark Liberty tower?

Answer. Yes. Individual facilities were able to determine how best to implement the furloughs to minimize disruption based on their shift scheduling and staffing requirements.

Question. Newark Liberty has the highest washout rate of any air traffic tower in the country, so it recently had a simulator installed to help trainee performance. Will furloughs impact training time on the simulator?

Answer. The funding relief provided by the Reducing Flight Delays Act of 2013 will enable the restoration of key support activities, including training simulation at Newark Liberty.

OPERATIONS IN NEWARK AIRPORT

Question. The fiscal year 2014 budget request proposes to transfer the responsibility for staffing the exit lanes adjacent to passenger screening checkpoints from the Transportation Security Administration (TSA) to commercial airport authorities. This issue is of particular concern to me because Newark Airport has seen numerous security breaches over the past few years. In 2010, a man breached an exit lane at Newark Airport without being screened and shut down the airport for more than 6 hours, affecting 16,000 passengers around the world.

What impact could this transfer have on airport budgets and other operations funded by airports?

Answer. The Transportation Security Administration determines the staffing levels, qualifications, and operational requirements necessary to meet Federal standards for airport exit lane staffing. TSA would be in the best position to quantify the operational and other related costs airports would assume in order to comply with

TSA requirements. The FAA would not be in a position to determine the impacts of such decisions on a specific airport's operating budget.

Question. What challenges would this transfer in responsibility present to Newark Airport and Atlantic City Airport?

Answer. The TSA and operators of Newark Airport and Atlantic City are in the best position to provide specific details on the costs, personnel, and related operating expenses that would result from the transfer of specific TSA operations to the airport operator.

REMOTE HIGHJACKING OF AIRCRAFT

Question. A German security consultant recently claimed to have developed technology that could be used to remotely hijack an airplane, alleging that current security systems do not have adequate authentication methods to ensure commands are from a legitimate source. The FAA released a statement saying it is aware of this claim and has said it does not pose a threat on actual commercial flights.

What steps has the FAA taken to determine and ensure this is not a problem on commercial flights?

Answer. The FAA along with Honeywell, the U.S. manufacturer of the system that was allegedly threatened, worked together to investigate the technical threat immediately after learning about the allegation. Honeywell quickly discerned and verified the methods and tools the hacker used to create the experiment. The theoretical threat was based entirely within a training system that runs on a desktop personal computer (PC) whose hardware and software differed significantly from actual aircraft equipment. A later version of the consultant's experiment, which appeared in media coverage, used a mobile phone application to communicate with his desktop PC. None of the experiments involved communication with an actual airplane.

The FAA determined that the hacking technique described during the recent computer security conference does not pose a flight safety concern because it does not work on any actual, certified aircraft hardware or software.

Question. When did the FAA become aware of this application?

Answer. The FAA first learned of the alleged threat on March 22, 2013, when the security consultant was preparing a briefing for a computing conference in Amsterdam, the Netherlands. Our investigation was completed before the conference began. Honeywell, the European Aviation Safety Authority, and the German Police made the consultant aware of the deficiencies in his allegations before the conference. The consultant chose nevertheless to deliver his presentation on April 8, 2013.

Question. Will you commit to reviewing the potential threat and updating me on steps being taken to address any deficiencies in our security systems that could leave an aircraft open to an attack of this nature?

Answer. We have reviewed the threat, determined it to be false, and, as a result, plan no further action at this time. The FAA provided this information to foreign civil aviation authorities and to the public in press releases. Our investigation, using all information available to us from the consultant and from Honeywell, has been completed to our satisfaction, with no credible threat found. The German consultant promised to provide more information to the FAA and Honeywell in support of his claim, but none has been received.

Question. Are current laws, specifically on cyber security, sufficient to address the nature of this threat?

Answer. The FAA believes current laws are sufficient to address the nature of this threat. Aircraft certification regulations under title 14 Code of Federal Regulations, including special conditions we levy on new aircraft programs which use networked or accessible computing systems, require aircraft manufacturers to design security features into their on-board systems. Numerous other Federal laws, outside the scope of our certification mandate, would forbid and impose punishments for the act by a hacker of attempting an attack against an aircraft.

CONTRACT WEATHER OBSERVERS

Question. Major airports, such as Newark Liberty, are required to employ certified contract weather observers to ensure the accuracy of weather reports provided to the airlines and the public. Due to sequestration, we have heard concerns that the FAA may consider closing down the contract weather observation program and transferring the observation responsibilities to air traffic controllers.

Is the FAA proposing to eliminate the contract weather observation program?

Answer. The fiscal year 2014 President's budget request includes sufficient funding to continue the contract weather observation program.

Question. If so, what would be the impact of transferring weather observing responsibilities to air traffic controllers? Specifically, what would the implications be at Newark Airport, given that the Newark air traffic control tower is already understaffed?

Answer. The fiscal year 2014 President's budget request includes sufficient funding to continue the contract weather observation program.

NEXT GENERATION AIR TRANSPORTATION SYSTEM

Question. To upgrade the air traffic control system, the FAA is implementing the Next Generation Air Transportation System (NextGen) to reduce gridlock, delays, and safety concerns through a satellite-based system. The William J. Hughes Technical Center in New Jersey—the Nation's premier facility for aviation research, development, and testing—currently conducts NextGen research.

How will NextGen research and implementation be impacted by the fiscal year 2014 budget?

Answer. The fiscal year 2014 NextGen investment portfolio totals $1.002 billion, of which $928.1 million is allocated to Facilities and Equipment (F&E), $61.4 million to Research, Engineering and Development (RE&D), and $12.6 million to Operations activities.

The fiscal year 2014 NextGen F&E budget request is $928.1 million, an increase of $65.3 million above the fiscal year 2012 enacted level. This level of F&E program funding enables the agency to continue support of near-term NextGen commitments. The funding allows the migration of pre-implementation activities from NextGen-Reduced Weather Impact solution set into an implementation program beginning in fiscal year 2014.

The fiscal year 2014 NextGen RE&D budget request is $61.4 million, an increase of $1.7 million above the fiscal year 2012 enacted level. This allows us to continue the progress we've made in NextGen-specific research into wake turbulence, human factors, and clean aircraft technologies.

The fiscal year 2014 NextGen Operations budget request is $12.6 million; an increase of $0.2 million above the fiscal year 2012 enacted level. This level of Operations activities continue to support the dedicated full-time equivalents (FTEs) required to implement NextGen.

The NextGen investment portfolio enables the implementation of Performance Based Navigation (PBN) procedures. The PBN is an aircraft navigation capability which allow for greater operational flexibility. An example is reducing the environmental footprint of greenhouse gas emissions and noise created by the aviation industry.

Finally, the FAA NextGen capabilities continue to provide significant improvement to the aviation industry; such as:

—*System Wide Information Management (SWIM).*—Allows operators to make better-informed decisions that improve their efficiency. This capability has been demonstrated by receiving surface movement data through this single portal at 19 external consumers.

—*Automatic Dependent Surveillance-Broadcast (ADS–B).*—Transform the Nation's air traffic system by utilizing global satellites to provide more precise location data. This capability has been demonstrated by supporting surface advisory services at 24 airports.

QUESTIONS SUBMITTED BY SENATOR MARK KIRK

CONTRACT TOWERS

Question. The Federal Aviation Administration (FAA or Administration) issued an appeals process for contract towers slated for closure and established four criteria for national security concerns that the FAA would evaluate.

Did the Administration rank all the appeals in order of national security importance? If not, how were decisions made regarding what met the FAA's criteria? If they were ranked, please provide the list of airports and towers in order of national security interest priority for all airports that appealed the closure decision.

Answer. The FAA did not rank the airports by order of national security. The FAA considered all of the input provided by the Department of Defense (DOD) and other agencies during the review process. FAA coordinated with the DOD, and the DOD provided FAA with feedback on their top priorities. In addition, the FAA coordinated with the Transportation Security Administration (TSA), the United States Coast Guard (USCG), the United States Secret Service (USSS), the Federal Bureau of Investigation (FBI) and the U.S. Marshal Service.

Question. Did FAA conduct a separate and distinct safety management assessment for each impacted contract tower prior to the closure announcements?

Answer. The FAA conducted a safety assessment for each tower prior to implementation of any proposed change as required by FAA regulations. In accordance with Air Traffic Organization (ATO) Order JO 1000.37, the Air Traffic Organization Safety Management System, and the Air Traffic Organization Safety Management System Manual (SMS Manual): all proposed changes to the National Airspace System (NAS) require Safety Risk Management (SRM) evaluation. SRM is broadly applied to changes that may affect the NAS to "ensure that hazards are identified and unacceptable risk is mitigated and accepted prior to the change."

This includes "any change to or modification of airspace; airports; aircraft; pilots; air navigation facilities; air traffic control (ATC) facilities; communication, surveillance, navigation and supporting technologies and systems; operating rules, regulations, policies, and procedures; and the people who implement, sustain, or operate the system components."

The level at which an SRM is conducted varies by organization, change proponent and/or type of change. In some cases, SRM Panels will perform SRM at the national level, and in other cases, SRM Panels will perform SRM at the service area or local level. There are five phases of a SRM safety analysis, which culminates in a Safety Risk Management Document (SRMD). A SRMD describes the safety analysis for a proposed change and documents the evidence to support whether the proposed change is acceptable from a safety risk perspective. The SRMD is intended to enable the relevant management officials to understand the proposed change, its associated risks, and corrective steps taken (or proposed) to reduce the initial and subsequent residual risks to an acceptable level.

Prior to the decision or announcement to withdraw funds from Federal contract towers, subject matter experts (SME) from the Air Traffic Organization (ATO) and other FAA offices, namely Flight Standards and Airports, conducted a thorough review of the safety implications and determined that the FAA had adequate and long-standing controls to address the risk associated with the potential closure of towers and the transfer of airspace among facilities. In fact, all but one of the identified towers close for several hours each day; so, the FAA was assured that any potential closure or airspace transfer procedures and processes are exercised daily; although a permanent closure might require additional planning requirements. Additionally, there are approximately 5,000 non-towered public use airports in the United States with daily operations; which validates the safety of those environments.

Following the determination that sufficient and long-standing safety standards and processes exist to operate at both towered and non-towered environments, ATO convened an SRM Panel from April 2–4, to ensure that stakeholders had an opportunity to address hazards and/or potential mitigations assuming a worst case scenario where all 149 towers would close and transition to non-towered operations; and, to develop additional risk controls and, if needed, implement them before any tower closures.

Question. Why did the FAA choose to cut specific towers completely from the program instead of reducing contract support for the entire program?

Answer. The FAA guiding principle, as we planned for sequester, was to minimize the impact to the greatest numbers of passengers. Therefore, initial plans impact smaller, lower activity locations more significantly than locations serving larger blocks of passengers. The criteria used identified towers that had less than 150,000 total operations and 10,000 commercial operations annually.

SEQUESTER COORDINATION

Question. You have obviously been working on a sequestration plan for some time and have known the potential impacts have a cascading effect. Air travel is a joint effort between several agencies including FAA, TSA and Customs.

Given your travel prognosis, what type of coordination have you done with TSA and Customs?

Answer. As part of sequestration planning efforts, numerous operational components of the FAA, TSA, and Customs and Border Protection (CBP) participated in several interagency telecons to discuss possible trans-agency impacts and mitigation strategies. Additionally, there was frequent contact between the FAA, TSA, and CBP at the managerial and executive levels to exchange information and discuss ways to synchronize mitigation efforts.

Question. If no coordination occurred, why didn't the Administration work out a strategy in advance? There have been several weeks of lead-up to this situation;

why would you wait until the last minute to release your plan to the industry and Congress?

Answer. As we have planned for and implemented measures to achieve the mandatory sequester reductions, we have consistently shared the potential impact that sequester could have on the National Airspace System with Congress, the aviation sector, our employees, and the traveling public. As early as February, we advised that we expected the automatic cuts to have a significant adverse impact on the aviation system and air travelers. We urged our stakeholders to work with us to minimize these impacts to the extent possible. Our outreach included written communications, congressional briefings, meetings, and testimony on Capitol Hill.

QUESTIONS SUBMITTED BY SENATOR JOHN BOOZMAN

GENERAL AVIATION ALTERNATIVE FUELS

Question. The administration included funding in the fiscal year 2014 budget for an Alternative Fuels for General Aviation program that seeks to move the work of the Federal Aviation Administration (FAA) and industry from research to a phase focused on coordinating and facilitating the fleet-wide evaluation, certification and deployment of an unleaded fuel in piston engine aircraft. Why is this program important?

Answer. The intent of this initiative is to implement an unleaded fuel for piston-powered aircraft engines to replace the current leaded aviation gasoline (avgas) 100 low lead (100LL). The continuation of FAA research is necessary to test, identify, and approve a replacement fuel that can be safely used by as much of the existing fleet of aircraft as possible. This program is important for human health impacts, fuel security, and the continued viability of the general aviation community.

Aviation gasoline (avgas) is a vital element of the piston engine aircraft safety system. Approximately 167,000 aircraft in the United States and 230,000 worldwide rely on 100LL avgas for safe operation. 100LL is the only remaining transportation fuel that contains the additive tetraethyl lead (TEL). TEL has been used as an avgas additive for decades to create the high octane levels required to prevent detonation (engine knock) in high power aircraft engines. Operation with inadequate fuel octane can result in engine failure in flight and aircraft accidents.

The U.S. Environmental Protection Agency (EPA) is currently evaluating the health and environmental impacts of lead emissions from aircraft, and has identified that general aviation contributes to possible violations of ambient air quality lead standards. Petitions and litigation from environmental organizations have called for the EPA to consider regulatory actions to eliminate or reduce lead emissions from aircraft. These activities raise concerns about the continued availability and use of leaded avgas.

Equipment manufacturers, owners and aircraft operators fear that the uncertainty about the future availability of a safe fuel for their airplanes is affecting the value of existing aircraft, impacting new aircraft development, and affecting the growth of the general aviation market. In response to the rapidly increasing concerns expressed by the general aviation community regarding the continued availability of 100LL, the Unleaded AVGAS Transition Aviation Rulemaking Committee (UAT ARC) was chartered on January 31, 2011, by the Federal Aviation Administration (FAA) Administrator. The final report of the UAT ARC can be found on the FAA Avgas Web site at the following URL: http://www.faa.gov/about/initiatives/avgas/ in the Archived Articles section.

The UAT ARC recommended that the FAA collaborate with industry to establish an unleaded avgas testing and evaluation program that would facilitate the development, approval and deployment of a replacement fuel for 100LL that would have the least possible impact on the existing fleet of aircraft. It was recommended that this program rely on the vast experience of the FAA William J. Hughes Technical Center to perform this testing. The research to be conducted at this facility will shift from developing a drop-in unleaded fuel to testing and identifying the best possible replacement unleaded fuel.

In addition, section 910 of the 2012 FAA Modernization and Reform Act specifies Research, Engineering and Development (RE&D) requirements to facilitate the transition to unleaded avgas. The FAA has developed a plan to implement the recommendations of the UAT ARC and will integrate the fuel evaluation and testing program with the requirements of section 910.

Finding a safe, high octane unleaded replacement for leaded avgas is an ongoing technical challenge that can benefit greatly from continued FAA research. Piston engine aircraft are used for many purposes including business and personal travel,

aerial surveys, agriculture, firefighting, law enforcement, medical emergencies, express freight, and instructional flying. The collective, continued service of piston engine aircraft in an operationally safe manner is essential. This program, to develop and promote an unleaded replacement avgas, will address environmental concerns associated with leaded fuels and provide a safe option for the general aviation industry.

CERTIFICATION PROCESS

Question. In the last FAA reauthorization, Congress included language to identify some needed reforms in the certification process. These reforms would focus FAA resources more effectively on safety critical activities and also begin to address the certification backlog that threatens the competitiveness of the U.S. aviation industry.

Are you moving forward with implementation of these reforms?

Answer. Yes. The Aircraft Certification Service (AIR) developed an implementation plan, issued on August 13, 2012, to address the reforms identified in section 312 of the FAA Modernization and Reform Act of 2012. The implementation plan addresses each of the six recommendations developed from an industry and FAA assessment of the existing certification and approval processes. As individual projects or improvements from the implementation plan are completed, we will measure how effective the change was in addressing specific goals. This will allow us to iterate the process to continue the improvement until the goal has been fully met.

Question. What is the most challenging aspect of these improvements?

Answer. The Aircraft Certification Process Review and Reform (ACPRR) Aviation Rulemaking Committee (ARC) submitted the following recommendations to the Director of Aircraft Certification on May 22, 2012:

1. Development of Comprehensive Means To Implement and Measure the Effectiveness of Implementation and Benefits of Certification Process Improvements;
2. Enhanced Use of Delegation;
3. Integrated Roadmap and Vision for Certification Process Reforms;
4. Update Part 21 To Reflect a Systems Approach for Safety;
5. Culture and Change Management; and
6. Process Reforms and Efficiencies Needed for Other Aircraft Certification Service (AIR) Functions.

Recommendations from the ARC were included in a report provided to Congress on August 13, 2012. The FAA fully supports these recommendations and developed a comprehensive implementation plan consisting of 14 initiatives addressing each item. Implementation actions began in 2012, in advance of the act requirement to begin implementation no later than February 14, 2013.

There are two large and comprehensive rulemaking projects to update part 21 and reorganize part 23. These are multi-year projects that require extensive coordination within the Government and with industry. Another challenge is to streamline the adoption of airworthiness directives issued by other civil airworthiness authorities. This initiative includes an evaluation of statutory impediments.

Question. Do you have the resources to manage these changes?

Answer. In fiscal year 2013 we have allocated sufficient resources to initiate certification process reforms. The 2014 budget request also fully supports this work. However, this is a difficult budgetary environment. In fiscal year 2013 under sequestration, we instituted a hiring freeze for FAA beginning March 1. Staffing levels can impact progress on our implementation plan, and as a result we are closely monitoring attrition and overall staffing levels.

CONTRACT TOWERS

Question. Congress recently enacted legislation giving the FAA flexibility to: (1) end furloughs that threaten to disrupt our economy and destroy jobs that depend on air travel; and (2) prevent the planned closure of 149 contract towers.

When will you announce your plan to carry out the clear, unambiguous intent of Congress and forestall the planned closure of 149 towers that had been schedule to start on June 15, 2013?

Answer. Secretary LaHood announced on Friday, May 10, 2013, that the Department of Transportation (DOT) has determined that the recently enacted Reducing Flight Delays Act of 2013 will allow the FAA to transfer sufficient funds to end employee furloughs and keep the 149 low-activity contract towers, originally slated for closure in June, open for the remainder of fiscal year 2013.

BUSINESS AVIATION AND GENERAL AVIATION—ECONOMIC IMPACT AND OPPORTUNITIES

Question. Aviation manufacturing and businesses that utilize general aviation (GA) are critical to economic opportunity in Arkansas and across our country. General aviation pumps more than $1 billion into the Arkansas economy every year, and our State is a proud home to large and small manufacturers that serve the general aviation sector, as well as other businesses that service and/or rely on GA aircraft. Our country is a leader in aviation manufacturing and technology, and this sector provides tremendous opportunities for growth and export. GA is a diverse sector that includes medical transport, business aviation, agricultural aviation, search and rescue, recreational flying, aerial firefighting, air charter, bush flying, and a variety of other activities.

I remain concerned about political rhetoric that castigates business aviation and general aviation to score cheap political points. Do you believe that business aviation is essential to economic strength and job opportunities in our country, and do you believe that it should not be unfairly targeted as an activity deserving disparate treatment under Federal law?

Answer. The FAA recognizes the critical role general aviation (GA) plays in supporting jobs and generating significant economic activity for the country. FAA's latest aviation forecast sees growth in business aviation demand over the long term driven by a growing U.S. and world economy especially in the turbo jet, turboprop and turbine rotorcraft markets. As the fleet grows, the number of general aviation hours flown is projected to increase an average of 1.5 percent a year through 2033.

Support for GA is part of the administration's goal to invest in the Nation's transportation infrastructure. The U.S. Department of Transportation and the Federal Aviation Administration (FAA) continue to invest in and improve GA and airports that serve GA through ongoing initiatives including direct support to airports, Next Generation Air Transportation System (NextGen) safety enhancements, and improving access to data.

Question. Will you address the importance of general aviation to our economy?

Answer. According to a study done by the FAA in 2011, general aviation operations added nearly $39 billion and approximately 496,000 jobs to the United States economy. To support the Nation's GA airports, FAA awards an average of $1 billion in Airport Improvement Program (AIP) grants annually. These grants help GA airports fund safety, capacity, standards and environmental improvements. Moreover, under the State Block Grant Program, participating States are allowed to administer AIP funds at non-primary airports. In addition, FAA has been working with the GA community on an ongoing study to develop a strategic plan for GA airports in the United States.

Through NextGen, the FAA has demonstrated its commitment to ensuring improved access and level of service for GA operators. For example, with the implementation of new technologies and procedures for the Wide Area Augmentation System (WAAS), and Localizer Performance with Vertical Guidance (LPV), GA operators have unprecedented access to airports where no ground-based instrument landing systems exist. Using these technologies and procedures, GA aircraft can land at airports even when visibility is limited. As of February 2012, there were nearly 2,800 WAAS LPV approach procedures to more than 1,400 airports throughout the United States.

Enhancing safety in GA operations is an FAA priority and is critical to supporting the growth of GA. Reducing the fatal accident rate for GA is one of the agency's strategic goals. We are also improving tracking of aircraft position and providing GA operators with tools that provide increased awareness of weather, terrain, aircraft and other conditions in the national airspace. Through another NextGen technology, Automatic Dependent Surveillance-Broadcast (ADS–B), GA pilots will have greater situational awareness.

To further enhance access and capabilities of GA aircraft and pilots, the FAA is currently developing technologies and policies that make FAA data more accessible to GA pilots through Internet-based portals. These portals support open government initiatives and will enable individual pilots to access new sources of information. The FAA is also making data and services more accessible through the use of new tools like the Apple iPad, which, when used as an Electronic Flight Bag, can be used for viewing navigational charts and approaches to airports.

Through these initiatives, FAA continues its active support of the GA industry.

USER FEES

Question. The administration's use-fee proposal could potentially levy a fee on aircraft used to conduct aerial application activities by thousands of dollars per day,

since they take off and land frequently to treat farmers' crops. This would cause great harm to farmers, aerial applicators, and food consumers.

Are you concerned about the impact this proposal would have on agricultural aviation and other users that require frequent take offs and landings?

Answer. This proposal would create a per flight fee by aviation operators who fly in controlled airspace. Military aircraft, public aircraft, recreational piston aircraft, air ambulances, aircraft operating outside of controlled airspace, and Canada-to-Canada flights would be exempted. Aircraft conducting aerial application activities and that fly outside of controlled airspace, like those used in agricultural aviation, would not pay the flight surcharge fee.

AGRICULTURAL AVIATION AND LOW-LEVEL AIRSPACE SAFETY ISSUES

Question. Agricultural aviation is extremely important to many Arkansas farmers. Do you recognize the importance of this niche sector in the aviation community, and will you commit to work with stakeholders and with my office to address the unique needs and concerns of this sector?

Answer. The Federal Aviation Administration recognizes the vital link between the agricultural aviation industry and American farmers, including those in the State of Arkansas. In order to communicate with this specific industry segment, we have participated in meetings hosted by the Arkansas Agricultural Aviation Association. In addition, we have a long-standing partnership with the director for the Arkansas Department of Aeronautics, including meetings on at least a quarterly basis to exchange updates on aviation topics of interest at the State and/or Federal levels.

At the regional level, our staff performs regularly scheduled outreach efforts with congressional staff to address any identified State-level issues of interest and share updates on agency efforts related to local areas of interest including NextGen, Unmanned Aircraft Systems, and obstacle evaluation, marking and lighting efforts.

Question. The FAA is rightly working to integrate Remotely Piloted Aircraft (RPAs) into the airspace. As this work continues, what is the Administration doing to ensure other, long-standing users of low-level airspace, such as aerial applicators, are protected from mid-air collisions and other operations that may prevent them from safely and effectively treating crops, protecting the public health, and combating forest fires at low levels?

Answer. The integration of Unmanned Aircraft Systems (UAS) into the National Airspace System (NAS) will require the FAA to carefully evaluate safety impacts on current NAS users, regardless of their altitude, size, or mission. Once the FAA has evaluated the safety impacts for a specific type of UAS operation, we will develop the appropriate regulatory requirements and risk mitigation strategies. We will ensure that UAS operations do not diminish safety or increase risk to persons or property in the air or on the ground.

Question. What is the status of the feasibility study FAA is conducting on the development of a database that would show the location of free-standing and guy-wired towers below 200 feet?

Answer. The FAA has completed the analysis as directed in section 219 of the FAA Modernization and Reform Act (Public Law 112–95). Our report is in final executive review and will be delivered to Congress in the near future.

Question. Does FAA believe it possesses the authority to require an airworthiness certificate or an airman certificate with respect to public unmanned aircraft operations under section 334 of the 2012 act? If so, does FAA intend to use that authority?

Answer. The FAA intends to comply with the provisions of the FAA Modernization and Reform Act's section 334 on Public Unmanned Aircraft Systems. The current regulatory structure requires public operators to make their own finding of compliance using their processes. FAA will issue guidance regarding a public entity's responsibility when operating an unmanned aircraft without a civil airworthiness certificate issued by the FAA. FAA is in the process of determining whether or not any regulatory changes are possibly needed.

Question. I am told that agricultural aviation interests have requested that the FAA expand Advisory Circular (AC) No. 70/7460–1 to include marking guidance not just for meteorological evaluation towers under 200 feet but for all towers—free-standing and guy-wired. Is the FAA considering this expansion of the AC?

Answer. Requirements to file notice under 14 CFR part 77 generally do not apply to structures at heights lower than 200 feet unless they are close to an airport environment. Meteorological evaluation towers (METs) under 200 feet do not meet the provisions of part 77 and the FAA does not conduct aeronautical studies to determine whether these structures are obstructions or whether they adversely impact air navigation. However, the FAA acknowledges that METs in remote, rural agricul-

tural areas may be difficult to see by low-level agricultural flights operating under visual flight rules. It was the combined factors of these structures being in rural, remote areas, the speed of their construction, and skeletal composition that led to additional, limited marking guidance. Guidance was not applicable to METs that are erected in urban areas and far removed from rural agricultural spraying operations.

The request to expand marking guidance for structures other than METs is not based on safety of flight issues. The guidance used for METs is not feasible or warranted for other structures under 200 feet. Other structures do not carry the same visibility concerns of skeletal METs, and additional marking guidance may cause an undue burden on the public.

SUBCOMMITTEE RECESS

Senator COLLINS. This hearing is recessed.

On next Thursday, April 25, at 10 a.m., we will hold a hearing on the Federal Housing Administration. Thank you all.

[Whereupon, at 11:56 a.m., Thursday, April 18, the subcommittee was recessed, to reconvene at 10 a.m., Thursday, April 25.]