OIG Challenge: Aviation Safety

Maintaining the safety of our National Airspace System is FAA's primary mission. While FAA and industry have maintained an otherwise excellent safety record, two fatal accidents in 2018 and 2019 involving the Boeing 737 MAX raised concerns about the Agency's aircraft certification and delegation oversight. In addition, FAA is not fully prepared to oversee evolving air carrier safety management systems, which help ensure regulatory compliance and mitigate safety risks. Another key challenge for FAA is to ensure that pilots are qualified to safely fly aircraft, which includes preventing and detecting airmen certificate fraud.

Planned Actions to Address this Challenge

Maintaining Confidence in the Aircraft Certification Process			
Mode	**Summary**	**Recommendation**	**DOT Owner**
AVS	Multiple OIG reviews have highlighted significant issues related to FAA's oversight of the aircraft certification process. Federal law allows FAA to delegate certain functions to organizations like Boeing to determine compliance with regulations. FAA's certification guidance does not adequately address integrating new technologies into existing aircraft models. FAA did not have a complete understanding of Boeing's safety assessments until after the first accident. Communication gaps between FAA certification offices, and between FAA and Boeing, further hindered the effectiveness of the MAX certification process.	FAA must examine risk assessments related to the grounding of the MAX and Agency efforts related to its return to service.	David Boulter, Associate Administrator for Aviation Safety (A)

The FAA is committed to improving and strengthening our aircraft certification process through comprehensive implementation of the Aircraft Certification, Safety, and Accountability Act (ACSAA), as well as by addressing recommendations from recent investigations and independent reviews.

Safety Management Systems (SMS)
The FAA anticipates issuing the Notice of Proposed Rulemaking (NPRM) for SMS applicable to 14 Code of Federal Regulations parts 21, 91, 135, and 145 by Fall 2022. In the interim, the FAA continues to foster and expand voluntary adoption of Safety Management Systems in design and manufacturing.

Delegation
The FAA will issue supplemental policy requiring the FAA's approval of unit members, employees within the Organization Designation Authorization (ODA) holder's group that performed the delegated functions, and assignment of FAA advisors for ODA unit members, as well as policy to prevent ODA

holder interference with ODA unit members and to facilitate open communication between unit members and the FAA.

The newly formed ODA office will also onboard at least ten new staff.

System Safety and Human Factors
The FAA anticipates publishing System Safety Assessment rule 25.130 in FY 2022. The FAA will also work to implement recommendations made by the System Safety Implementation Team and will issue new policy to require disclosure of safety critical information by manufacturers.

Integration of Certification and Oversight
The Integrated Program Management (IPM) Team will provide recommendations for policy and guidance updates. The FAA plans to initiate an IPM prototype for three projects in FY 2022. Additionally, the FAA will continue monthly program reviews for significant projects. The FAA will also expand and enhance the Technical Advisory Board process.

Culture of Safety and Excellence
The FAA will complete comprehensive reviews of its workforce responsible for the certification of the design, manufacture, and operation of aircraft. In support of just safety culture, the FAA will conduct a safety culture assessment of AVS employees to assess the health of AVS' safety culture and implementation of the Voluntary Safety Reporting Program (VSRP). The FAA also anticipates measuring the effectiveness of the VSRP.

Advancing FAA's Air Carrier Oversight To Keep Pace With Safety Management System Requirements

Mode	Summary	Recommendation	DOT Owner
AVS	FAA faces challenges in achieving the proactive benefits of SMS while also ensuring regulatory compliance.	FAA must have a sufficient inspector workforce in place to conduct necessary oversight of SMS and other critical areas. FAA must make further improvements, including updates to reflect organizational changes to improve staffing models.	David Boulter, Associate Administrator for Aviation Safety (A)

The FAA is strongly committed to continuous improvement of our safety record and strives to implement enhancements to our oversight programs as they are identified. The FAA's approach to aviation industry safety oversight incorporates the principles of Safety Management Systems (SMS) and the FAA Compliance Program.

As the Agency is working towards the improvement of both the SMS and the Compliance Program, the FAA appreciates the Inspector General's (IG) focus and recommendations. Regarding last year's IG report for Southwest Airlines, the FAA agreed with all the recommendations and is making progress towards completing each one. Concerning the more recent report about American Airlines, the FAA had previously identified similar findings through our own internal review processes. The Agency agreed with the majority of the IG's findings and is implementing safety risk management practices to address the issues identified. The FAA is committed to bolstering our technical and professional development and agrees with the IG that proper training is vital to the effectiveness of safety oversight.

With respect to our inspector workforce, since the 2013 IG Audit (AV2013-099) the FAA has taken numerous steps to improve its current staffing model. The Agency has fully or partially implemented most of the 25 recommendations made by the National Research Council by taking constructive steps to improve the model's data, enhance the model's software, and simplify the model's formula to more easily calculate future inspector activities. We continue to explore options to address staffing needs and resource challenges.

Consistent with Sec. 122 of the Aircraft Certification, Safety, and Accountability Act, the FAA has established an Executive Council and Steering Committee charged with measuring the effectiveness of the Compliance Program and making recommendations to the Administrator on how to improve the Program.

OIG Challenge: Air Traffic Control and Airspace Modernization

Aimed at modernizing our Nation's aging air traffic system, FAA's Next Generation Air Transportation System (NextGen) requires joint investment from FAA (new ground-based systems for controllers) and air carriers (new avionics and displays for pilots). FAA and air carriers are expected to invest more than $36 billion in NextGen by 2030, including up to $15 billion by air carriers. However, to date, NextGen programs have only achieved a small percentage of the expected benefits. FAA will have to continue working with industry to secure additional investments, while also deploying controller automation tools that are intended to provide safer and more efficient air traffic management.

Planned Actions to Address this Challenge

Managing Expectations of NextGen Benefits To Justify Investments			
Mode	**Summary**	**Recommendation**	**DOT Owner**
ANG	NextGen was expected to benefit airspace users by accommodating a significant projected growth in air traffic and passengers while reducing congestion-based delays. However, NextGen benefits have not kept pace with expectations because of overly optimistic air traffic and passenger growth projections, which the COVID-19 pandemic further affected.	To justify its investment and convince air carriers, FAA should continue to develop metrics to capture NextGen performance while accounting for these offsetting factors to communicate actual benefits to airspace users.	Paul Fontaine, Assistant Administrator for NextGen (A)
The FAA continues to work with industry to build consensus on data, methodologies, and the value of NextGen improvements. This fiscal year, FAA and industry will establish a Joint Analysis Team work-plan for FY 2022 that will identify benefit analysis that will be conducted on newly deployed NextGen capabilities. We will use these benefit analyses to inform decisions on future implementations. In the meantime, the FAA will continue to evaluate the operationalizing of NextGen using metrics agreed to through the NextGen Advisory Committee (NAC).			

Deploying Controller Automation Tools To Improve Efficiency			
Mode	**Summary**	**Recommendation**	**DOT Owner**
ATO	FAA has not effectively implemented one controller tool, Time-Based Flow Management, and has experienced delays with implementing the TSAS tool in airspace close to airports. TSAS deployment has been delayed at least 3 years and is currently planned for only two locations (Denver and Southern California)—reduced from nine previously planned locations—due to other priorities, a furlough, and the pandemic. These obstacles have contributed to less than expected benefits for the Metroplex program, which aimed to implement PBN in 12 congested metropolitan areas. FAA also faces challenges in deploying the Terminal Flight Data Manager (TFDM).	No recommendations for improving Time-Based Flow Management. FAA must address complex interdependencies within the wide range of systems needed to boost airport surface operations and integrate TFDM with other traffic management systems.	Tim Arel, Chief Operating Officer of the Air Traffic Organization (A)

Time Based Flow Management (TBFM)/ Terminal Sequencing and Spacing (TSAS): In FY 2022, the FAA will implement TBFM metering tools to condition the arrival flows for Southern California Terminal Radar Control Facility in preparation for TSAS implementation. TBFM metering tools already condition the arrival flows that feed into Denver terminal airspace.

Software development will progress through operational deployment of Release 4.14. TBFM Release 4.14 software provides the interfaces with Standard Terminal Automation Replacement System (STARS) for the TSAS capability. TBFM Release 4.15, which provides additional TBFM-centric functionality needed for operational integration, will enter the testing phase in the first quarter of FY 2022.

Terminal Flight Data Manager (TFDM): In FY 2022, the FAA will continue to maintain regular technical working sessions between all of the national airspace systems that interface to TFDM. These technical sessions allow the TFDM program to identify interface dependencies and risks early to properly develop system updates on both sides of the interface. Furthermore, the FAA will conduct comprehensive system interface tests utilizing the FAA's NextGen laboratory facilities at the William J. Hughes Technical Center and at the key site prior to TFDM going operational. These tests allow the FAA to ensure interfaces work properly and provide the opportunity for operational users to validate the interfaces. Additionally, TFDM will be interdependent with the airline community exchanging flight information. The FAA has created a TFDM testbed for the airlines to support development and integration of TFDM with airline systems.

OIG Challenge: Contract and Grant Fund Stewardship

In addition to its typical pre-pandemic annual contract and grant obligations— totaling over $74 billion in fiscal year 2019—DOT is also responsible for obligating the over $106 billion it received from Congress for COVID-19 relief across all modes of transportation. Given this large influx of funds, DOT must sharpen its focus on its contract, grant award, and administrative practices. This includes ensuring compliance with a number of domestic preference and supply chain requirements, as well as dedicating qualified and sufficient oversight staff equipped with the necessary tools to protect these funds from waste, fraud, and abuse.

Planned Actions to Address this Challenge

Dedicating Qualified and Sufficient Oversight Resources for Contract and Grant Funds			
Mode	**Summary**	**Recommendation**	**DOT Owner**
ARP/AFN	With the addition of billions in COVID-19 relief funds on top of DOT's already multibillion-dollar annual contract and grant spending, it is critical the Department improve the qualifications and training of its staff who manage and oversee these funds. DOT must also equip them with sufficient tools to carry out their oversight responsibilities. Given the sizeable increase in contract and grant dollars from COVID-19 relief funds, DOT will be challenged to dedicate sufficient and qualified oversight to help ensure these funds are properly used. A recent audit of FAA's acquisition workforce, OIG found nearly half of the 69 Contracting Officer's Representatives in our sample lacked required certifications. FAA may be putting Federal funds at risk by allowing its acquisition workforce to manage complex, costly, and mission-	No recommendations.	Shannetta R. Griffin, Associate Administrator for Airports Katrina Hall, Deputy Assistant Administrator for Acquisition and Business Services (A)

critical contracts without the required qualifications.		

COVID-19 Relief Funds

The FAA has consolidated lessons learned from its CARES Act Airport Grants Program experience to benefit the implementation of the two new, novel COVID-Relief Grant programs established and implemented in FY 2021. The hiring for specialized knowledge skills and abilities, on-the-job training, collaboration, and contacting for independent review helped prepare the FAA for both the Coronavirus Response and Relief Supplemental Appropriation Act (CRRSA) and the American Rescue Plan Act (ARPA). In FY 2022, these programs will be launched.

The FAA is implementing novel programs of Concessions Rent Relief Reimbursement in CRRSA and ARPA. To ensure we meet the challenges highlighted by the OIG in running these novel programs, the FAA is:

- Increasing available staffing resources;
- Hiring targeted expertise in airport development to focus on COVID-related airport building as well as the airport concessions industry;
- Using on-the-spot hiring authorities to improve oversight and reporting capability; and
- Contracting for independent reviews of payment integrity for CRRSA and ARPA during FY 2022 as we did for CARES in FY 2020.

Additionally, FAA is implementing broader management reforms to provide additional management support, coordination, and oversight of staff involved in COVID-relief grant programs.

Acquisition Workforce

FAA is taking multiple actions in FY 2022 to address the challenge of ensuring qualified and competent personnel are managing FAA's acquisition programs:

- Utilizing the FAA Acquisition Learning Institute to strategically communicate, deploy and manage training, and provide development activities and opportunities for the acquisition workforce.
- Expanding the National Acquisition Evaluation Program to include routine oversight of acquisition training and certification processes.
- Performing a Business Process Reengineering review of the systems and processes used to track and report acquisition workforce certifications.

OIG Challenge: Innovation and the Future of Transportation

Preparing for the future of transportation is a fundamental challenge for DOT. This includes safely integrating new and evolving transportation technologies, including advanced energy sources, Unmanned Aircraft Systems (UAS), commercial space operations, and vehicle automation. DOT must also apply lessons learned from the COVID-19 pandemic's impact on transportation supply chains to better position the transportation industry for the future, while incorporating into its decision-making such issues as climate change and equity in infrastructure investments.

Planned Actions to Address this Challenge

Safely Integrating New Technologies into Transportation Systems			
Mode	**Summary**	**Recommendation**	**DOT Owner**
AVS/AST	Unmanned Aircraft Systems: FAA has yet to issue rulemaking to address operating UAS beyond visual line of sight throughout the National Airspace System (NAS). As a result, achieving full and safe integration of UAS remains an ongoing challenge. Commercial Space: It is critical to strike the right balance between supporting the industry's continued development while safely integrating its operations into the NAS. This will require effective coordination with industry and other Federal agencies, continued regulatory enhancements, and deployment of new technologies, such as the Space Data Integrator.	No recommendations given.	David Boulter, Associate Administrator for Aviation Safety (A) Kelvin B. Coleman, Associate Administrator for Commercial Space Transportation (A)

Unmanned Aircraft Systems

The FAA has a risk-based approach to integrating UAS into the national airspace. Beyond visual line-of-sight (BVLOS) operations create a higher risk due to the removal of a pilot's ability to see and avoid other aircraft. Industry has collaborated with FAA to consider a variety of proposed solutions that include strategic mitigations, technical solutions, and traffic management concepts. However, the FAA must make significant updates to existing regulations in order to normalize safe, scalable, economically viable, and environmentally advantageous UAS BVLOS operations. To address this the FAA convened a UAS BVLOS Aviation Rulemaking Committee (ARC) in June 2021.

The UAS BVLOS ARC was tasked with providing consensus recommendations to the FAA on BVLOS regulations for various types of UAS operations such as linear infrastructure inspections, industrial aerial data gathering, small package delivery, and precision agriculture operations. The ARC focused on taking a holistic approach in recommending a performance-based, technology-agnostic regulatory framework for BVLOS operations. The ARC is currently developing a final report, which is due to the FAA before the end of the calendar year.

The FAA is drafting a proposed rule to align airworthiness certification standards and rigor with the level of risk based on the aircraft's operation. This will enable limited BVLOS commercial operations. The notice of proposed rulemaking is scheduled to publish in mid-2022. The FAA will assess and compare the policies in that draft rulemaking with the BVLOS ARC recommendations and update as appropriate. The FAA is planning for the need for BVLOS specific rulemaking following the receipt of the ARC's recommendations.

Commercial Space

Launch and reentry operations continued to grow at a rapid pace throughout FY 2021. The FAA recorded a record 72 launch and reentry operations in FY 2021, of which 64 were commercially licensed. This is exactly double the number from FY 2020.

The FAA is developing the appropriate governing documents under relevant legal authorities to establish the Space Collaborative Decision Making (SCDM) initiative by March 2022. The SCDM initiative will act as a forum for regulators and industry stakeholders to share information necessary to foster the development of processes, tools, and metrics necessary to further safely integrate commercial space vehicles into the airspace. The SCDM will meet bi-monthly and in periodic "teams" or "forums" as appropriate to exchange data and recommendations. In addition, the FAA will also be implementing Debris Response Areas, which allow safety enhancements in the event of a launch anomaly.

The FAA deployed the Space Data Integrator (SDI) operational prototype to the Command Center in June 2021 to deliver operations benefits today (such as access to real-time-space vehicle data and automating manual processes) while understanding the needs of evolving operations. The FAA will be further enhancing the SDI operational prototype. The Agency plans to integrate these capabilities into existing automation tools in future investments. The long-term plan is to integrate these capabilities into existing automation tools in future investments. We are currently working with stakeholders in the investment analysis process.