Safety

Oversee and operate the safest aerospace system in the world, all with a culture of continuous improvement

Systemic Safety Approach

Mitigate risks and encourage infrastructure and behavior change by using a data-driven systemic safety approach to identify risks, enhance standards and programs, and evaluate effectiveness.

Initiative: Enterprise and ANG Safety Management Systems

Conduct integrated safety assessment to determine National Airspace System (NAS) enterprise safety risk, and develop safety requirements for mitigating potential hazards and improving safety benefit of the NAS modernization.

Activity: Conduct Safety Risk Management

Conduct Safety Risk Management for National Airspace System (NAS) Enterprise to support risk-based decision making.

Target: Develop Concept of Use for Hazard Enterprise Architecture Traceability Tool v2.0

Develop operational use cases for illustrating expected user interactions with the new Hazard Enterprise Architecture Traceability Tool (HEATT) capability in support of safety risk management practices.

Target: Demonstrate HEATT v2.0 Prototype

Demonstrate Hazard Enterprise Architecture Traceability Tool v2.0 prototype using operational use cases to support enterprise safety risk management practices.

Activity: Develop National Airspace System Enterprise Safety Handbook Training

Update National Airspace System (NAS) Enterprise Safety Handbook based on lessons learned and develop training for the handbook.

Target: Deliver Enterprise Safety Training

Publish the Enterprise Safety Practitioner training course for ANG Safety Risk Management practitioners.

Target: Publish National Airspace System Enterprise Safety Handbook v2.0

Update the National Airspace System (NAS) Enterprise Safety Handbook in accordance with the lessons learned, stakeholder feedback, and the Enterprise Safety Practitioner training.

Initiative: Enterprise Cyber Support for National Airspace System

Provide cyber testing capability to improve the cybersecurity posture of the FAA systems integrity, confidentiality, and availability.

Activity: Test and Evaluate FAA critical systems

Develop Penetration Test standard operating procedures to support FAA High Value Assets test.

Target: Develop Penetration Test Standard Operating Procedure

Develop Penetration Test Standard Operating Procedures (SOP) to support the identification and evaluation of vulnerabilities on FAA High Value Assets (HVA).

Target: Conduct Pen-Test on FAA High Value Assets Systems

Conduct Penetration test on at least eight FAA High Value Assets (HVA) systems to support FAA mission critical operation.

Activity: Reduce Research and Development Domain Cyber Risks

Collaborate with system owners to reduce cyber risk to research and development domain Assets.

Target: Enhance Enforcement of Information Security Continuous Monitoring in the Research and Development Domain

Develop Information Security Continuous Monitoring (ISCM) compliance memo to provide guidance on security best practices and vulnerability management for research and development laboratory owners.

Target: Expand Information Security Continuous Monitoring Capability Coverage in the Research and Development Domain

Increase the number of Information Security Continuous Monitoring (ISCM) compliant assets in the research and development domain by 5 to 10 percent. Develop and deliver ISCM research and development asset count final report.

Activity: Develop Secure Enterprise Cyber Test Range

Lead and manage development of the Secure Enterprise Cyber Test Range (SECTR).

Target: Obtain Secure Enterprise Cyber Test Range Accreditation

Obtain Security and Hazardous Materials Safety (ASH) letter of accreditation to operationalize Secure Enterprise Cyber Test Range (SECTR).

Target: Integrate Secure Enterprise Cyber Test Range Test Range with DOD and DHS

Gain approval to integrate Secure Enterprise Cyber Test Range (SECTR) into the DOD's Joint Information Operations Range (JIOR).

Initiative: Surface Safety Risk Reduction

AJI will utilize the surface safety metric to: Establish consensus among Runway Safety stakeholders on a policy to assess and quantify the risk in runway safety events. Address precursors, as well as latent risks by proactively providing event trend summaries and best practices to the field.

Activity: ANG Support of Runway Safety Technology Program Management Integration

ANG will continue developing the Runway Incursion Prevention through situational awareness to include Speech Recognition and Memory Aid research.

Target: Runway Incursion Reduction Program

Runway Incursion Reduction Program (RIRP) will continue developing the Runway Incursion Prevention through Situational Awareness (RIPSA) toolkit of technologies, to include Speech Recognition and Surface Surveillance alternatives

Target: Contract and Programmatic Support

Runway Incursion Reduction Program (RIRP) will deliver contract support and programmatic support to AJI as required.

Operational Excellence Infrastructure

Operate the world's most efficient aerospace system through daily execution, continuous improvement and infrastructure investment (maps to infrastructure, innovation and accountability)

Project Delivery Planning Environment Funding and Finance

Facilitate expanded infrastructure development, modernization, and construction in both rural and urban communities by fostering more efficient and collaborative planning and construction techniques, accelerating project approval, leveraging all sources of funding, and promoting innovative financing while maintaining environmental stewardship.

Initiative: NextGen

Support National Airspace System (NAS) modernization and evolution through infrastructure improvements, technology, information sharing, and community engagement.

Activity: Las Vegas Metroplex Program

Complete the Las Vegas Metroplex Implementation Phase. The Implementation Phase is the final activity of the Metroplex process for implementation of the Metroplex project's procedures. It includes finalizing the Implementation Plan and the Training Plan, completing flight inspection of Metroplex procedures, Stakeholder coordination, completing work force training, and publication and implementation of project procedures

Target: Las Vegas Metroplex Training Plan Complete

This document identifies the activities necessary for the execution and completion of the work force training of the Las Vegas Metroplex project airspace changes and procedures.

Target: Las Vegas Metroplex Implementation Phase

Finalize memo that details the completion of all Implementation Phase activities and implementation of the Las Vegas Metroplex project's airspace changes and procedures.

Activity: Established on Required Navigation Performance

Established on Required Navigation Performance (EoR) utilizes the accuracy of Required Navigation Performance (RNP) instrument approach procedures (IAPs) to call aircraft established earlier in the final approach. Once aircraft are established, standard separation of 3NM lateral or 1000ft vertical no longer needs to be maintained.

Target: Complete Final Concept Validation

Complete Final Concept Validation Stakeholder Meeting with Houston TRACON

Target: Complete Established on Required Navigation Performance Radius-to-Fix

Complete Established on Required Navigation Performance (EoR) Radius-to-Fix (RF) Duals and Triples Concept Validation Report.

Activity: Vertically Established Operational

Vertically Established Operational (VEO) enables the use of Vertical Rate (VR) to separate aircraft using modern aircraft capabilities and verification of VR to better utilize the vertical dimension.

Target: National Airspace System-wide Vertically Established Operational Candidate Scan Report

Complete National Airspace System-wide Vertically Established Operational (VEO) Candidate Scan Report

Target: Preliminary Vertically Established Operational Benefits Analysis

Complete preliminary Vertically Established Operational (VEO) Benefits Analysis.

Activity: Multiple Airport Route Separation

Multiple Airport Route Separation (MARS) leverages is the Established on Required Navigation Performance (EoR) concept of considering aircraft established on a Performance Based Navigation (PBN) procedure and extends it to flows of traffic to and from multiple airports in close proximity.

Target: Multiple Airport Route Separation Safety Analysis Human-in-the-Loop Simulation Plan

Complete Multiple Airport Route Separation (MARS) Safety Analysis Human-In-The-Loop (HITL) Simulation Plan.

Target: Multiple Airport Route Separation Safety Analysis

Complete Multiple Airport Route Separation (MARS) Safety Analysis Human-In-The-Loop (HITL) Simulation Scenarios.

Activity: Separation Automation System Engineering

Separation Automation System Engineering (SASE) is a pre-implementation program that matures emerging NextGen Separation Management automation capabilities and develops automation enhancements for En Route, Terminal, and Oceanic domains to support planned NextGen operational improvements.

Target: Shortfall Analysis Report

The Shortfall Analysis Report (SAR) quantifies shortfalls in separation automation systems that could be addressed by the selected capabilities identified in the Concept of Operations (ConOps).

Target: Concept of Operations for candidate En Route Automation Modernization Capabilities

The Concept of Operations (ConOps) will document how the selected candidate capabilities can work together as part of a cohesive enhancement package. This ConOps for candidate En Route Automation Modernization (ERAM) capabilities will be revised as the results of the engineering analyses and simulation activities of the shortfalls analysis are completed.

Activity: Multi-Regional Trajectory Based Operations Demonstration

The Multi-regional Trajectory Based Operations (TBO) Demonstration project will collaborate with industry and international partners to demonstrate the operational values of TBO Concepts. During Phase I, partnerships will be established with other Air Traffic Management (ATM) Service Providers (ASPs) and industry participants to plan and develop activities for Phase II demonstration of TBO across all phases of flight. A baseline technical infrastructure at Florida NextGen Testbed (FTB) will be established for TBO demonstrations to close technical gaps and mitigate risks, culminating in a Phase I Risk Mitigation Demonstration (RMD).

Target: Operations Scenarios and Use Cases for Multi-regional Trajectory Based Operations Demonstrations

Conduct operations scenarios and use cases for multi-regional trajectory based operations (TBO) demonstrations.

Target: Architecture for Multi-regional Trajectory Based Operations Demonstration

Deliver the initial Architecture and Capabilities Document that describes and illustrates the architecture design for multi-regional trajectory based operations (TBO) that will be employed during the demonstration exercises in Phase II.

Activity: Flight Object

This program develops the concept of Flight Object, which is a single common reference for flight information in the national airspace system (NAS). This capability must fit the operational needs of the NAS, while utilizing a technically viable solution. Flight Object will enable collaborative sharing of information between a diverse group of actors.

Target: Flight Information Exchange Model International Outreach

Complete Proof of Concept #2 which includes the capabilities such as supporting flight and flow
information for collaborative environment (FF-ICE) flight plan filing through the National Airspace Data Interchange Network (NADIN) and consuming published flight data from SWIM Flight Data Processing System (SFDPS).

Target: Complete Finalized Flight Object Proof of Concept #2

Complete finalized Flight Object Proof of Concept #2 Functional requirements which detail the capabilities of Flight Object Proof of Concept #2.

Activity: Information Management

Information Management (IM) is performing engineering analysis on the information infrastructure to address future requirements for information management systems and national airspace system (NAS) architectures. IM will merge the information sharing needs with additional requirements from upcoming NextGen initiatives and capabilities.

Target: Complete Micro Service Analysis

Complete analysis on micro service architectures for future infrastructure concept planning.

Target: Complete Analysis of Select NextGen Weather Programs

Complete analysis of NextGen weather programs for architecture modernization.

Target: Develop Analysis Documents

Develop analysis documents for future national airspace system (NAS) architectures to inform decisions surrounding future architecture planning.

Activity: Time-Based Flow Management - Dynamic Routes for Arrivals in Weather

Dynamic Routes for Arrivals in Weather (DRAW) is a trajectory-based decision support tool for traffic managers aimed at improving arrival traffic flow. DRAW combines the weather avoidance capability of NASA's Dynamic Weather Routes (DWR) with an arrival scheduler and arrival-specific rerouting algorithms to determine more efficient routes and balance arrival demand across meter fixes in the presence of weather.

Target: Dynamic Routes for Arrivals in Weather Extended Metering and Coupled Scheduling Human-in-the-Loop Plan

Dynamic Routes for Arrivals in Weather (DRAW) will be adapted for an Extended Metering (XM) and Coupled Scheduling (CS) environment, and this plan will include a detailed description of the Human-in-the-Loop (HITL) design and the steps necessary to execute the HITL.

Target: Dynamic Routes for Arrivals in Weather Extended Metering and Coupled Scheduling Scenarios

These scenarios will efficiently and comprehensively show the adaptation of Dynamic Routes for Arrivals in Weather (DRAW) for a Weather Extended Metering and Coupled Scheduling (XM-CS) environment. A limited number of these scenarios will be selected for demonstration in a multi-center part-task Human-in-the-Loop (HITL).

Activity: Closely Space Parallel Operations

CSPO explores concepts to increase airport capacity through reduced separation standards, expand applications of dependent and independent operations, and enable operations in lower visibility conditions. These improvements will develop and refine procedures that enable operations for closely spaced parallel runways (CSPRs) spaced less than 4300 feet laterally.

Target: Site Assessment and Selection for Closely Spaced Parallel Operations

Complete the final site assessment and selection document for Closely Spaced Parallel Operations (CSPO) using high update rate surveillance.

Target: Safety Study on Reductions to the Minimum Radar Separation Standards

Develop a safety study on reductions to the Minimum Radar Separation standards on final approach.

Activity: Common Support Services Flight Data: The Common Support Services

Common Support Services Flight Data (CSS-FD) program will enhance flight planning and filing, and provide enterprise-level services that support flexible, accurate, and timely access to common flight information across domains, flight operators, and Air Traffic Management (ATM) community. The CSS-FD program will work towards standardization of flight information exchange in the national airspace system (NAS) by defining and delivering a service that updates exchanges between operators and the FAA, using Flight and Flow Information for a Collaborative Environment (FF-ICE), Flight Information Exchange Model (FIXM), and Flight Object. CSS-FD is scheduled to reach its Initial Investment Decision (IID) milestone in FY-2022 Q1 for Package A.

Target: Range of Alternatives for Initial Investment Analysis

Complete the Range of Alternatives (ROA) document in support of Common Support Services Flight Data (CSS-FD) Package A initial investment analysis activities.

Target: Draft Initial Program Requirements Documents for Common Support Services Flight Data (CSS-FD) Package A

Complete a draft Initial Program Requirements documents (iPRD) for initial stakeholder review to support Common Support Services Flight Data (CSS-FD) Initial Investment Decision (IID).

Activity: Surface Tactical Flow Program

Mobile Application (Pacer) Research: This research refines mobile technology-based prototypes that facilitate tactical information exchange between GA pilots and surface management systems, specifically around the use during surface metering operations. The research will also explore strategic demand applications that involve generating departure demand predictions at airports to improve situation awareness around expected delays.

Target: Report on GA flight operator participation

The Report on GA flight operator participation in surface metering operations using mobile technologies will explore the viability and benefit of GA participation in surface metering at Charlotte (CLT)

Target: Report on advanced methods of machine learning

The Report on advanced methods of machine learning for strategic departure demand predictions will explore machine learning methods to refine strategic departure demand predictions at airports with high GA operations.

Activity: Dynamic Airspace

Proof of Concept Development: Dynamic Airspace will perform research and analysis for a toolset that allows dynamic reconfiguration of existing NAS automation infrastructure to meet the needs for changing demand and capacity in the NAS.

Target: Proof of Concept Engineering Plan

This plan will define how switching to IP-based flight data, surveillance, and voice services will help us prove out the Dynamic Airspace concept. This proof of concept will show how integrated cloud services will facilitate the reconfiguration of NAS resources.

Target: Airspace Identification and Scenario Development Report.

This report will focus on the identification of factors to determine the available and most beneficial airspace sectors for use in Proof of Concept activities.

Activity: Space Integration Capabilities (SIC)

Research Opportunities: SIC will ensure the availability of airspace for launch and reentry operations while minimizing the effect of these operations on other NAS stakeholders.

Target: SIC Demo Tech Transfer

This tech transfer package will include the deliverables completed for the SIC Data Collection and Demo

Activity: Strategic Flow Management Application (SFMA)

Traffic Flow Management (TFM) Capability Modeling: SFMA will leverage automation to improve TFM operations by addressing system-wide demand and capacity imbalances to improve support for NextGen capabilities and objectives

Target: TFM Capability Modeling Assessment

This report will identify capabilities mature enough for TFM modeling activities. The scope of capabilities considered will be derived from the NAS Vision 2035 document, output of TFM Information Flows work, and other NextGen portfolios.

System Operations and Performance

Enhance reliable and efficient movement of people and goods by promoting effective management and ensuring leadership in securing data and in sharing information across the transportation system.

Initiative: Stakeholder Engagement & Outreach

Enhance domestic and international stakeholder confidence in NextGen and engage stakeholders in NextGen through collaboration and messaging.

Activity: Stakeholder Collaboration

Enable and facilitate collaboration throughout the FAA, aviation community and interagency partners by sharing resulting actions, outcomes, and information.

Target: 80 Percent NextGen Advisory Committee (NAC) Commitments

Achieve eighty (80) percent of NextGen Advisory Committee (NAC) NextGen Priorities Joint Implementation Plan commitments, excluding industry-controlled milestones, within a calendar quarter of their scheduled dates.

Activity: Outreach Division

Effectively communicate to stakeholders the NextGen initiatives in support of NAS modernization.

Target: NextGen Report for Fiscal Year 2021

Deliver the draft NextGen Report for Fiscal Year (FY) 2021 (replacement for NextGen Implementation Plan) to the Assistant Administrator for NextGen.

Target: Sentiment Analysis Reports

Provide at least five (5) Sentiment Analysis reports or other studies requested by Lines of Business (LOBs)/Staff Offices. Sentiment analysis is used to inform ANG and requesting LOBs of stakeholders' sentiments toward issues and problems that preoccupy FAA stakeholders, to develop appropriate messaging.

Target: NextGen in the News Newsletter

Provide at least fifteen (15) issues per month of the 'NextGen in the News' newsletter. 'NextGen in the News' is a compilation of the latest media articles about the FAA's efforts to modernize the NAS. It provides awareness to ANG and FAA leadership about the topics that are worthy of media coverage, and which media sources are publishing it.

Initiative: Separation Standards and Analysis

Provide separation standards and analysis for U.S sovereign airspace and international airspace where FAA has delegated authority to provide air traffic services.

Activity: Provide Analytical Studies and Safety Related Monitoring Services in Support of Separation Reductions

Conduct and participate in separation standards and transportation system analytical studies, reviews, and meetings.

Target: International Civil Aviation Organization (ICAO) Separation and Airspace Safety Panel

Provide analytical studies and safety-related monitoring data in support of the acceptance of new standards for separation reductions. Acceptable Level of Risk (ALR) and target-to-target radial separation standards and procedures will be priorities.

Target: Chair for the Regional Monitoring Agency Coordination Group

Attend and serve as Chair for the Regional Monitoring Agency (RMA) Coordination Group (RMACG)/16, presenting details of the North American Approvals Registry and Monitoring Organization (NAARMO) and Pacific Approvals Registry and Monitoring Organization (PARMO) monitoring and safety analysis.

Activity: Provide Reduced Vertical Separation Minimum Regional Monitoring Agency Functions

Provide the Reduced Vertical Separation Minimum (RVSM) Regional Monitoring Agency (RMA) functions for 2 RMAs. Conduct and participate in separation standards and transportation system analytical studies, reviews, and meetings.

Target: ICAO Safety Data Reporting

Provide lateral and longitudinal airspace safety analyses that document compliance with ICAO safety targets. This applies to airspace and for operators in North America and the Pacific.

Target: Reduced Vertical Separation Minimum

Provide the Reduced Vertical Separation Minimum (RVSM) Regional Monitoring Agency (RMA) functions for two of the thirteen world-wide RMAs. Due dates also include monthly updates to worldwide database.

Initiative: Security Compliance

Ensure that security strategies align with business objectives, adhere to policies and internal controls, and are consistent with applicable laws and regulations.

Activity: Vulnerability Management Processes

Provide services related to monitoring and tracking vulnerabilities within the FAA's FISMA reportable systems; monitor and track Plan of Action & Milestones (POA&Ms); manage vulnerability mitigation and remediation; and coordinate the scheduling and remediation of vulnerabilities for all FISMA reportable systems.

Target: Remediate 80% of High Value Vulnerabilities (HVV)

Remediate 80% of High Value Vulnerabilities (HVV) on internet-accessible systems, as identified in Cyber Hygiene reports issued by the Cybersecurity and Infrastructure Security Agency (CISA), within 30 calendar days of initial detection.

Initiative: Operations and Cost Benefits Analysis and Reporting

Conduct post-implementation assessments and future costs benefit analyses of NextGen implementation to inform stakeholders and future decision-making. Provide context about the performance of NextGen capabilities at specific locations, illustrating how post-implementation benefits justify further investments in NextGen.

Activity: Evaluate North East Corridor Implementations Supporting the NextGen Advisory Committee

In support of the NextGen Advisory Committee (NAC), evaluate key North East Corridor (NEC) initiatives to determine post-implementation benefits in support of NAC Joint Analysis Team (JAT).

Target: Support Joint Analysis Team North East Corridor Analyses

Collect baseline data for normalization to address key North East Corridor (NEC) implementations including Atlantic Coast Routes, Pre-Departure reroutes & Airborne Reroute (PDRR/ABRR), and other studies as required.

Target: Update baseline prior to Time Based Flow Management (TBFM) operations at Philadelphia International Airport (PHL)

Update Time Based Flow Management (TBFM) baseline analysis at Philadelphia International Airport (PHL) in support of the Joint Analysis Team (JAT) to facilitate timely post implementation analysis.

Activity: Complete Evaluations of Future Potential Benefits

Develop analyses of future benefits and, as needed, costs associated with potential new or enhanced operational capabilities in support of NextGen Advisory Committee (NAC).

Target: Conduct Minimum Capability List Analysis

Develop updated analyses of Minimum Capability List (MCL) benefits for Required Navigation Performance (RNP), DataComm, and other MCL avionics as requested by the NextGen Advisory Committee (NAC).

Target: Conduct Future Benefit Analyses

Conduct future benefit analyses in support of ANG-C Air Traffic Management initiatives to inform implementation priorities and future research.

Activity: Conduct Trajectory Based Operation Shortfall and Benefit Analysis

Conduct TBO shortfall and benefit analysis using historical data and modeling tools to inform future prioritizations including research supporting NAS 2035.

Target: Identify Trajectory Based Operation 3T Integration Shortfall Gaps

Identify shortfall gaps from lack of integration of Time Based Flow Management (TBFM), Terminal Flight Data Manager (TFDM), and Traffic Flow Management System (TFMS) to inform future implementation prioritizations and research.

Target: Develop Trajectory Based Operation Initial 3T Shortfall/Benefits In Off-Nominal Conditions

Develop initial benefit analysis at a minimum of 3 key sites during GDPs.

Target: Develop Departure Shortfall for Key North East Corridor Airports In Convective Weather

Develop initial departure shortfall at a minimum of 3 key airports during convective weather.

Activity: Conduct Analysis Of Research Activities Mapping To Operational Shortfalls In Support Of NAS 2035 Including Unmanned Aircraft System Traffic Management And Urban Air Mobility Integration

Conduct analysis of mapping FAA research activities to Operational shortfalls including UTM and UAM integration into the NAS to understand baseline impacts on traditional airspace users.

Target: Low-altitude Instrument Flight Rules Data Collection

Initiate data gathering for legacy operator low-altitude Instrument Flight Rules (IFR) flight operations in support of future Unmanned Aircraft System Traffic Management (UTM) and Urban Air Mobility (UAM) operations.

Target: Low-altitude Visual Flight Rules Data Collection

Identify potential data sources for low altitude Visual Flight Rules (VFR) flight operations in support of future Unmanned Aircraft System Traffic Management (UTM) and Urban Air Mobility (UAM) operations including density of General Aviation (GA) aircraft squawking 1200.

Target: Map ANG Research Activities To Key Benefit Areas Of Opportunity In Support Of ANG Aircraft Evolution Dashboard

Map individual ANG research activities to key benefit areas of opportunity (safety, capacity/throughput, efficiency, predictability, flexibility, internal FAA cost savings).

Innovation

Lead in the development of innovative aerospace capabilities that improve the safety and performance of our nation's aerospace system

Development of Innovation

Encourage, coordinate, facilitate, and foster world-class research and development to enhance the safety, security, and performance of the Nation's transportation system.

Initiative: Aviation Research

Provide scientific solutions for current and future air transportation challenges that guide the development of aviation safety improvements.

Activity: Aircraft Safety Assurance

Conduct Aircraft Safety Assurance research to ensure continued safety in the design and operation of aircraft systems.

Target: Conduct Piston Aviation Fuels Test

Complete detonation and performance testing per Piston Aviation Fuels Initiative (PAFI) approved test plans to evaluate anti-detonation and power performance of a PAFI candidate unleaded avgas in a turbo-charged representative engine.

Target: Conduct Flammability Testing to support Training and Guidance Materials.

Conduct research and aircraft materials flammability testing to support the development of training and guidance material for aircraft manufacturers and others.

Target: Develop Minimum Performance Standard for Cargo Halon Replacement.

Develop minimum performance standard (MPS) for cargo halon replacement agents. It will include a multi-stage review by the Cargo MPS Task Group, a group of more than 20 experts from government and industry. The activity will produce a standardized test method to be used by industry for the certification of replacement agents in the cargo compartment.

Target: Conduct Test and Analysis of Second Fuselage Panel to Assess Emerging Metallic Structures Technology (EMST)

Collect and present test data to demonstrate whether and how fuselage concepts utilizing EMST improve damage tolerance compared to baseline fuselage structures constructing using conventional materials and processes. Collaborate with Arconic and Embraer to assess EMST using the FASTER and Structures and Materials Labs.

Target: Update New Impact and Failure Models for Metal and Composite Materials

Provide updates on new impact and failure models for metal and composite materials available in LS-DYNA, aerospace modeling guidelines document revision, and test case updates with Aerospace Working Group Engine Related Impact and Failure (AWG ERIF) industry representatives. LS-DYNA is an explicit finite element analysis software tool used for dynamic analysis by the aerospace industry for modeling turbine engine blade fragment impact to aircraft and engine structure.

Target: Develop and Document Prototype DARWIN Probabilistic Design Code - Residual Stresses on Curved Surfaces of 2D FE Models.

The new capability will be prototyped and documented for implementation into future DARWIN releases. Residual stresses play an important role in determining the life of critical engine parts. Accounting for these stresses will increase the accuracy of DARWIN life predictions.

Target: Conduct Test of Flight Path Command System for General Aviation

Conduct and test flight path command system at NASA Langley's Cockpit Motion Facility, which is developing mission task elements for certifying the fly by wire system on Part 23. These results will lay the groundwork to develop a means of compliance to certify direct flight path control for general aviation.

Target: Update Metallic Materials Properties Development and Standardization (MMPDS) Handbook.

Update to the Metallic Materials Properties Development and Standardization (MMPDS) handbook and database providing statistically based material allowables that comply with material strength requirements in §2X.613 for aircraft certification and continued airworthiness.

Target: Complete Design of Test Fixture for Aged Structural Bonds on Rotor Blades.

Develop and document a test program to investigate unknown behaviors of aged bonded composite rotor blades and field repairs to gain a fundamental understanding of the aging mechanism of bonded dynamic structures. This includes procuring test articles for phase 1 testing and completing the design of a test fixture.

Target: Conduct Tests to Support the Safe Transport of Lithium Batteries in Bulk

Conduct hazard analysis testing of various lithium battery types at the unique Technical Center laboratory. The resulting data will be summarized in a report that supports the development of a new battery classification system for the safe transport of lithium batteries.

Target: Create a Holistic View of Aircraft

Create a Dashboard to Guide FAA's Aircraft Centric R&D, Technology Insertion and Standards Development. Document and populate an initial schema and set of requirements for a dashboard representing a multilayered enterprise view of the evolution of an aircraft.

Activity: Human and Aeromedical Factors

Conduct Human and Aeromedical Factors research to address human-system interactions in an evolving NAS as well as the impact of flight on humans.

Target: Update the Human Factors Design Standard

Review and coordinate updates to the HF-STD-001 document in key topic areas to ensure that the standard a) reflects current research, technology, and best practices, b) is compatible with other industry standards, and c) provides useful guidance on the topics most needed by FAA and industry users.

Target: Improve air traffic control information integration.

Develop and document human-centered guidance for the presentation and integration of new ATC information sources. The report will inform ATC system design requirements, test and evaluation methods, and controller/maintainer training.

Target: Safety Culture Survey

Provide safety culture survey validation report.

Activity: Airport Technology & Infrastructure Research

Conduct Airport Technology & Infrastructure research to assess and improve the infrastructure at airports and spaceports
across the NAS.

Target: Commerical Off-The-Shelf Fluorine-Free Foam (FFF) fire testing

Test non-commercial off the shelf/prototype FFF products.

Target: Non-fluorinated AFFF Technical Support

In collaboration with Industry and Department of Defense (DOD), provide technical support and information as it becomes available in identifying non-fluorinated AFFF acceptable to meet 14 CFR Part 139 requirements in support of Section 332 of FAA Reauthorization Act of 2018.

Target: Geosynthetics Sections Testing

Conduct full scale testing of geosynthetics sections at the National Airport.

Target: Geosynthetics Effectiveness Report

Provide report on first year testing of geosynthetics effectiveness.

Activity: Aerospace Performance and Planning

Conduct Aerospace Performance and Planning research to ensure necessary capabilities and tools are available to meet increasing capacity demands while enabling emerging operations.

Target: Conduct Flight Tests in Level D Full Flight Simulators to Improve Go-around Safety.

Evaluate, document, and present results of at least two mitigations for go-around safety risks through conducting flight tests in Level D full flight simulators.

Activity: Environment and Weather Impact Mitigation

Conduct Environment and Weather Impact Mitigation research to develop mitigations to the environmental impacts of aviation operations as well as the impact of weather on air transportation safety and efficiency.

Target: Conduct Testing of Simulated Cold Soaked Fuel Frost for Both Aluminum and Composite Wing Surface Models

Complete testing of simulated cold soaked fuel frost (CSFF) in Baylor University Climatic and Aviation Frost Facility (CAFF) for both aluminum and composite
wing surface models.

Target: Provide Final Report and Database for Swept Wing Icing Project

Finalize and submit report and database from this multiyear, collaborative effort with NASA and ONERA. These deliverables will encompass ice accretion data for swept wing models tested in NASA Icing Research Tunnel and aerodynamic data for models of iced airfoils tested in the Wichita State Beech Tunnel and ONERA F1 Tunnel.

Activity: Digital Systems and Technologies

Conduct Digital Systems and Technologies research to ensure the continued safety and security of digital systems and technologies that enable the aviation industry.

Target: Demonstrate Cyber Security lateral movement Monitoring Toolsets for an FAA Network Environment

Develop and demonstrate initial cybersecurity capability of lateral movement monitoring toolsets utilizing FAA use-cases and datasets.

Activity: New Entrant Focused Research and Development (Aviation Safety Assurance)

Conduct ongoing research and development efforts to support the safe and efficient integration of Unmanned Aircraft System (UAS) into the National Airspace System (NAS).

Target: Technical Research Report

Complete a report documenting the survey of duty and rest requirements to include pilot fatigue for both manned and unmanned operations as well as other non-aviation related unmanned operations.

Target: Unmanned Aircraft System (UAS) Flight Tests

Complete technical report documenting the research findings of the small Unmanned Aircraft System (UAS) detect and avoid requirements necessary for limited BVLOS operations including separation requirements and testing.

Target: Validation Testing of C2 Link End-to-End data and Control Plane Network Switchover and Security Functions.

Validation Testing of C2 Link End-to-End data and Control Plane Network Switchover and Security Functions.

Target: In support of Detect and Avoid

Enhancements to the Unmanned Aircraft System (UAS) terminal encounter model: Inclusion of take-off scenarios, transiting intruders, Class E and G airspace, as well as multi-runway based scenarios.

Target: Security Stakeholder Needs analysis

The Security Stakeholder Needs analysis distills the approved set of Unmanned Aircraft System Traffic Management (Unmanned Aircraft System Traffic Management (UTM)) use-cases into a common set of stakeholder needs. When practical, it will identify and document qualitative and quantitative methods for assessing or prioritizing the findings

Target: Develop a draft roadmap for obtaining the data required to conduct a focused risk analysis for airspace under 400' AGL

The roadmap will include: identifying the data categories required for the FAA to complete a low-altitude risk assessment, providing insight into what data exists and where it resides, determining what research applicable to this analysis is being conducted through current or upcoming FAA or industry standards efforts, and identifying gaps in required data and suggesting research to fill the gaps.

Target: Technical Report Development.

Will contact technical report on quantitative relationships between increased pace of automation and impact on sightings/incidents and accidents, (2) Technical Report establishing de minimis risks framework associated with Unmanned Aircraft System (UAS) integration into the NAS, and (3) Technical Report providing detailed recommendations to revise FAA's existing SMS.

Target: Develop CONOPs and ORAs for the disaster response use cases identified

Must include CONOPs for wildfire, hurricanes, tornados, flooding, earthquakes, volcanic eruptions along with oil spills, terrorist attacks, nuclear dispersion, and train derailments

Activity: Aviation Weather Research Program (Environment & Weather Impact Mitigation)

Demonstrate the scientific advances required for advanced weather forecast products required for NextGen.

Target: Visibility Estimation thru Image Analysis (VEIA)

Report validating the completion of the quality assessment of the VEIA algorithm experimental demonstration in collaboration with the Aviation Weather Camera program in Alaska (avcamsplustest.faa.gov).

Target: Turbulence Avoidance Model

Status report validating completion of the initial Turbulence Avoidance Model prototype and its readiness for stakeholder evaluation. Due: August 31, 2021

Activity: Weather Technology in the Cockpit (Environment & Weather Impact Mitigation)

Provide pilots with safe access to the NAS by analyzing and disseminating aeronautical and meteorological information to pilots and controllers through innovative systems.

Target: ADS-B Turbulence

Report identifying quality control problems (e.g. missing data and/or outliers) that could affect turbulence estimates negatively, based on an analysis of real-world Automatic Dependent Surveillance-Broadcast (ADS-B) reports.

Target: ROMIO Update

Identify feasible methods, if any, to integrate Himawari satellite imagery data and global lightning data into the Remote Oceanic Meteorological Information Operational (ROMIO) baseline configuration.

Activity: Flight Deck Collaborative Decision Making Prototype (Digital Systems and Technologies)

Develop prototype Flight Deck Collaborative Decesion Making (FD CDM) surface applications to enable exchange of taxi instructions between flight deck via an Electronic Flight Bag (EFB) and Ground Control (GC) via Air Traffic Control Tower (ATCT) application. The Prototype development and test plan will be developed to clearly define the development plan and approaches. The evaluation exercises/checkpoints will be conducted throughout development lifecycle for validation purposes, and to discuss and resolve any technical challenges. Technical manual will be produced, either as an integrated software or as a paper manual. The development details, findings, and lessons learned will be captured.

Target: Define initial set of requirements to establish framework to develop the prototype FD CDM applications

. The requirement analysis will leverage concept and engineering products developed during the prior Milestones to describe in broad aspect of what systems must do and how the system is to be constructed. Develop initial application requirements for FD CDM digital taxi instruction delivery application.

Target: Conduct FD CDM Prototype Evaluation Check Point. Owner

This activity provides an opportunity to review and demonstrate the prototype functionalities to project stakeholders. This activity will provide the first look at the applications and enable subject matter experts (SME) to review and provide their inputs for fine tuning the application during the development cycle.

Activity: Flight Deck Data Exchange Requirements (Digital Systems and Technologies)

Flight Deck Data Exchange Requirements will focus on safety critical data exchange, and gather information on existing controls, standards, rules, and guidance that are in place today to secure communication of safety critical information. As-Is and To-Be test cases will be developed to describe how safety critical data exchange is and will be exchanged, and outline data flow through linkages in the information systems onboard the aircraft. This will provide a blueprint for conducting analysis to identify security areas and defense mechanisms/approaches to achieve secure data exchange environment supporting safety critical functions.

Target: As-Is and To-Be test cases will be developed to describe current and future approaches to exchange safety critical information/data, e.g., flight clearance, and command and control instructions.

These test cases will leverage the architecture developed in findings in the technical report and illustrate how data traverses through various linkages onboard the aircraft. Develop test cases for flight deck data exchange of safety critical data/information

Target: Protection of the safety critical data and identify security defense mechanisms

This analysis will explore /approaches to ensure the data is protected from accidental or unauthorized modification, destruction or disclosure. The findings will documented and provide security risk mitigation strategies for safety critical data exchange.

Initiative: Enterprise Systems Engineering and Integration

Develop and maintain Systems Engineering Guidance Material and conduct key National Airspace System (NAS) Enterprise Integration studies. Provide enterprise systems engineering expertise to execute NAS enterprise integration studies to realize the future of the NAS vision.

Activity: Sustain and Enhance the National Airspace System Enterprise Architecture

This includes the yearly update to the National Airspace System (NAS) Enterprise Architecture (EA) Roadmaps and NAS Segment Implementation Plan (NSIP). It also includes the addition of new content to the roadmaps and NSIP associated with business and technology improvements.

Target: Perform Annual National Airspace System Enterprise Architecture Roadmap and National Airspace System Segment Implementation Plan Update

Spearhead the National Airspace System (NAS) Enterprise Architecture (EA) Roadmap and NAS Segment Implementation Plan (NSIP) annual update effort, ending with their final publication on the NAS Systems Engineering Portal (SEP).

Target: Identify New Business and Technology Roadmap Elements

Integrate applicable NAS 2035 elements (e.g. key concepts, themes, activities) into the NAS EA Business and Technology Roadmap related artifacts set. Draft Business and Technology Roadmap related artifacts set will be completed by April 2021 and included in the 2022 NAS EA Update cycle for stakeholder review.

Target: Conduct Stakeholder Review of National Airspace System Enterprise Architecture Roadmap Update

Partner with the Air Traffic Organization's (ATO) service units (Program Management Organization, Mission Support Services, etc.), the Office of Finance and Management (Investment Planning and Analysis), the Joint Resources Council (JRC) Secretariat, and other key stakeholders to conduct a senior stakeholder review of the draft National Airspace System (NAS) Enterprise Architecture (EA) Roadmaps prior to the October 2021 Technical Review Board (TRB).

Target: Internal Target: Develop Plan for Integration of NAS 2035 Concepts into the NAS Enterprise Architecture (EA)

Review NAS 2035 Vision and Key Activities Documents. Identify Changes and Additions to the EA. Develop a timeline for Implementation of Changes.

Target: Complete NAS 2035 Change 1 to the NAS EA

Gather Priorities from ANG-3 for most important artifacts and NAS 2035 Concepts for inclusion in NAS 2035 Change 1. Update and develop artifacts based on ANG-3 Priorities to create NAS 2035 Change 1 for Agency Stakeholder review.

Target: Integrate NAS 2035 Change 1 into National Airspace System Enterprise Architecture Roadmap and National Airspace System Segment Implementation Plan Update

Fold NAS 2035 Change 1 into the review and approval package for the Roadmap and NSIP Update Approval Process.

Activity: Improve Systems Engineering Portal (SEP)

Collaborate with stakeholders to improve the visibility and availability of systems engineering and enterprise level architecture data and information supporting National Airspace System (NAS) acquisition decisions.

Target: Identify Systems Engineering Portal software improvement priorities

Collaborate with stakeholders to prioritize needs and finalize the Systems Engineering Portal (SEP) Build Plan.

Target: Execute Systems Engineering Portal Build Plan

Deliver software changes specified by the plan, including improving visibility and availability of data and information to Systems Engineering Portal (SEP) user community.

Activity: Readiness and Feasibility Assessment

Perform readiness and feasibility assessment for FY21 in support of development of a more budget realistic National Airspace System (NAS) Enterprise Architecture (EA).

Target: Develop and Publish FY21 Readiness and Feasibility Plan

The plan will document the process for performing the readiness and feasibility analysis, and the programs to be analyzed.

Target: Publish FY21 Readiness and Feasibility Report

The FY21 Readiness and Feasibility report will document the analysis done across the selected programs and investments to help with the development of a budget-realistic architecture.

Activity: Improve National Airspace System Enterprise Architecture Model and Requirements Change Process

Improve the National Airspace System (NAS) Enterprise Architecture (EA) Model and NAS requirements change process, including requirements status, by moving from an ad hoc re-baselining timeline to a real-time change process driven by immediate socialization of proposed changes resulting from operational and technical analysis.

Target: Form Cross-organizational Team

Form a cross-organizational team with members from ANG-B1, ANG-B2, ANG-B3, ANG-C, ANG-E, AJV-S, AJM, and AJW to share planned and ongoing analyses that may drive changes to enterprise requirements and models on a regular basis.

Target: Define Roles and Responsibilities

Using team from 21Nf.20I1, identify roles and responsibilities of each organization in the validation and verification process of proposed change packages to the National Airspace System (NAS) Enterprise Architecture (EA) Models and requirements.

Target: Develop Update Schedule

Using the team from 21Nf.20I1, develop a schedule of National Airspace System (NAS) Enterprise Architecture (EA) Model and Requirements updates, based on the operational and technical analysis schedules collected from the team members.

Target: Present Analysis to Stakeholders and Boards

Using the team from 21Nf.20I1 and the RASCI (Responsible, Accountable, Supporting, Consulted, Informed) matrix from 21Nf.20I2, exemplify what the new analysis driven change process will look like based on an operational and/or technical analysis completed in 2020 or 2021 by presenting to relevant boards and stakeholders (e.g. Talent Review Board (TRB), FAA Enterprise Architecture Board (FEAB)).

Initiative: Charting Aviation's Future

The National Airspace System (NAS) 2035 initiative includes activities for the research, development, concept maturation, and technology transfer of air traffic capabilities to build towards our goals for the NAS, including opportunities afforded by technology advances enabling changes to the future environment and the anticipated changes in the areas of operations, safety assurance, and infrastructure that modernize the NAS and facilitate the integration of new entrants. These activities are anticipated to deliver benefits in terms of efficiency, flexibility, throughput, safety, and predictability for all of air traffic management, including access for new entrants.

Activity: Charting Aviation's Future

Charting Aviation's Future includes documenting the vision and high level concept of operations for an information-centric NAS. These activities will describe how technology advances will enable changes to the future environment in the areas of operations, integrated safety management, and infrastructure that modernize the NAS and facilitate the integration of new entrants. These activities are anticipated to deliver benefits for air traffic management in terms of efficiency, flexibility, throughput, safety, predictability, and access for new entrants.

Target: Develop a Vision Document for the Future of the NAS

Develop a vision document that describes the opportunities afforded by technology advances enabling changes to the future environment and the anticipated changes in the areas of operations, integrated safety management, and infrastructure.

Target: Develop a Concept of Operations for the Info-centric NAS

Develop a preliminary level I Concept of Operations for an info-centric NAS that describe the processes, technologies and services envisioned in Charting Aviation's Future.

Activity: Assess and Evaluate Unmanned Aerial System Operating Environments

Identify required capabilities, information and data exchanges of Urban Air Mobility (UAM) as well as interactions with Air Traffic Management (ATM) and Unmanned Aircraft System Traffic Management (UTM) systems by leveraging UAM Concept of Operations v1.0 and Use Cases developed therein. Further, analyze linkages between UAM and current ATM and UTM architecture that are needed to support incorporation of UAM, and provide recommendation on UAM architecture design and design modifications pertaining relevant systems.

Target: Urban Air Mobility Corridors Placement Impacts on Air Traffic Control and Air Traffic Management Operations

Further, investigation will be conducted to understand how these corridors will be defined in each airspace class (e.g. Class B, C, and D) and what information (e.g. position and traffic counts) should be available to local air traffic managers and how this information should be made available. Investigate and document initial Urban Air Mobility (UAM) corridors impact assessment on current national airspace system (NAS) operations

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Target: Develop the Urban Air Mobility Conceptual System Architecture document

Develop the Urban Air Mobility (UAM) Conceptual System Architecture document that consist of high-level system architecture illustrating interactions of systems within the UAM environment and the interface with Air Traffic Management (ATM) and Unmanned Aircraft System Traffic Management (UTM).

Activity: Notice to Airmen Aircraft Category Information:

Develop a strategic vision for future enhancements to the Notice to Airmen (NOTAM) operating environment.

Target: Report on Initial Notice to Airmen Data Analytics

Draft Report on initial NOTAM data analytics. Document the results of the initial NOTAM analysis, including methodology and approach for algorithm development.

Target: Final Report on Initial Notice to Airmen Data Analytics

Final Report on initial NOTAM data analytics. Document the results of the initial NOTAM analysis, including findings and conclusions, recommendations for future improvements, and lessons learned.

Activity: Nadin Message Switch Network Rehost (NMR) Cloud Capability Analysis

This program will utilize the enterprise services infrastructure framework to evaluate NMR capabilities for cloud compatibility.

Target: Draft Recommendations Report - NMR System Modernization

Complete draft recommendations report for NMR system modernization.

Target: Final Recommendations Report - NMR System Modernization

Complete recommendations report for NMR system modernization, incorporating Aeronautical Message Handling System (AMHS) messaging component.

Activity: Class E Upper Airspace Traffic Management

The Class E Upper Airspace Traffic Management (ETM) project will demonstrate the feasibility of integrating new entrants into Class-E Airspace by analyzing potential capabilities, identifying necessary regulations and requirements, as well as planning for/executing evaluations in support of simulations will be executed in concert with NASA and Industry to validate concepts generated by tabletop sessions (documented in the ConOps).

Target: Class E Upper Airspace Traffic Management Conceptual Architecture Report v1.0

Provide an updated version of the Class E Upper Airspace Traffic Management (ETM) Conceptual Architecture Report.

Target: Class E Upper Airspace Traffic Management Use Case Information Flow Plan v1.0

Provide an updated version of the Class E Upper Airspace Traffic Management (ETM) Use Case Information Flow Plan.

Activity: Advanced Air Mobility Beyond Visual Line of Sight National Airspace System Evaluation

The Advanced Air Mobility (AAM) Beyond Visual Line of Sight National Airspace System Evaluation (BNE) project focuses on large unmanned operations such as cargo aircraft that fly longer distances through the national airspace system (NAS). Through a series of data collection activities that exhibit increasing complexity, this project's participants will analyze, test, and evaluate multiple concepts and scenarios aimed at identifying potential gaps, and the impact of large Beyond Visual Line of Sight (BVLOS) operations on communications, navigation, and surveillance (CNS) services.

Target: Architecture and Capability Document

The architectural design and capabilities required to support the Advanced Air Mobility (AAM) Beyond Visual Line of Sight National Airspace System Evaluation (BNE) data collection activities and comply with existing and future NAS standards as well as identify key systems, data elements, and illustrate data flows to AAM BNE data exchange in live flight will be documented.

Target: Final Operational Use Case Report

The Operational Use Case Report will illustrate specific examples of operational use cases that highlight AAM BNE flight operations and the required Advanced Air Mobility (AAM) Beyond Visual Line of Sight National Airspace System Evaluation (BNE) exchanges in live flight and will consider existing and emerging capabilities, to formulate operational use cases.

Activity: Advanced Methods

This program will explore the use of advanced coordination and data storage solutions to drive post operational analysis of Traffic Management (TM) coordination. Current activities are aiming to explore speech recognition with industry, as well as build the concept of how speech recognition could be used in the NAS

Target: Speech Recognition Prototype

Complete the development of the speech recognition prototype for Traffic Flow Management Coordination.

Target: Produce Initial Speech Recognition Lessons Learned

Produce initial speech recognition lessons learned document incorporating technical and operational takeaways from the prototyping effort.

Activity: Flow Exchange Model

This program develops a new concept for an information exchange model proposed by the FAA for ATFM information exchange. Flow Exchange Model (XM) provides a standardized structure for information in the Flow Domain. This data will be represented in XML, and would be used in machine-machine exchanges such as SWIM feeds.

Target: Complete the Scope Document for Flow Exchange Model Release #2

Complete the scope document for Flow Exchange Model (XM) Release #2, based on international coordination and partner input.

Target: Flow Exchange Model Release

Complete Flow Exchange Model (XM) Release #1, which covers Traffic Management Initiatives such as Reroutes and Ground Delay Program.

Activity: Facility Letter of Agreement Data Analytics

Develop a data driven recommendation for a standardized template in support of digital, standard format information exchange.

Target: Draft Report on Initial Letter of Agreement Data Analytics

Document the results of the initial Letter of Agreement Data (LOA) analysis, including methodology and approach for algorithm development.

Target: Final Report on initial Letter of Agreement Data Analytics

Document the results of the initial Letter of Agreement (LOA) analysis, including findings and conclusions, recommendations for future improvements, and lessons learned.

Activity: Identify Historical Data Shortfalls (Improvement Opportunities) for Future Trajectory Based Operations Implementations

Evaluate arrival and departure related shortfalls at top 41 airports and causal factors that will help identify groups of Trajectory Based Operations (TBO) tools and procedures that can reduce shortfall.

Target: Complete update of Arrival and Departure shortfall analysis for Top 41 airports using CY2019 data sources.

Arrival and Departure shortfalls assess key opportunities for TBO related NAS improvements through existing capacity or better management of necessary delay.

Target: TBO Success Factors

Identify factors inhibiting TBO success using historical data and modeling, at select airports.
Modeling will then help identify groups of TBO tools/procedures both improving delivery accuracy and delay redistribution benefits.

Activity: Air/Ground SWIM Connected Aircraft

Application Registry and Distribution Platform: The Application Registry and Distribution Platform provides a platform for sharing software applications between stakeholders, collaborating between development, test, and implementation teams, leveraging automation to enable business rules and best practices, and promoting software re-use and evolutionary development. The concept is believed to increase agility, reduce overall development time, and promote innovation by cross-project collaboration. It is expected that the concept will also support the eventual transition from monolithic system architectures to a decoupled, micro service oriented architecture.

Target: Data Distribution Platform Concept Paper

Develop the Data Distribution Platform Concept Paper

Activity: Develop a Cloud En Route Automation Modernization in the Box Prototype

Develop a Cloud En Route Automation Modernization in the Box (EIB) prototype to assess the viability of command and control systems in a cloud architecture. Functional and performance testing of the Cloud-EIB prototype will be performed. Testing results will serve as inputs to a gap analysis report, which documents gaps in current cloud functionality needed for the prototyped ERAM functions. Testing results, gap analysis, and a transition plan will be captured in the final prototyping report.

Target: Cloud En Route Automation Modernization in the Box Draft Architecture

Develop an initial Architecture for the Cloud En Route Automation Modernization in the Box (EIB) prototype. The Draft Architecture will identify all component systems, data elements, data flows, and capabilities that the prototyping effort will address.

Target: Cloud En Route Automation Modernization in the Box Prototyping Report

Complete the Cloud En Route Automation Modernization in the Box (EIB) Prototyping Report. This report contains testing results, challenges, and lessons learned during development of the Cloud-EIB prototype.

Activity: Develop Performance-Based Flow Management ConOps Vol.II: Use Cases

These use cases will provide further detail on concepts contained within the Performance-Based Flow Management (PBFM) ConOps, resulting in a detailed description of the future traffic flow management environment.

Target: Performance-Based Flow Management Use Cases - Initial Draft

Complete the Performance-Based Flow Management (PBFM) Use Cases initial draft. This draft will highlight expected changes in business rules and interactions among actors and automation.

Target: Performance-Based Flow Management Use Cases - Final Draft

Complete the Performance-Based Flow Management (PBFM) Use Cases Final Draft, to include a final review and comment adjudication process from the PBFM Use Cases Initial Draft.

Activity: Flight Data Input/output Cloud Capability Analysis

This effort will utilize the enterprise services infrastructure framework to evaluate Flight Data Input/output (FDIO) and its related information exchanges for cloud compatibility.

Target: Flight Data Input/Output Cloud Capability Analysis - Initial Draft

Complete initial draft of the Flight Data Input/Output Cloud Capability Analysis.

Target: Flight Data Input/Output Cloud Capability Analysis - Final Draft

Complete the final draft of the Flight Data Input/Output (FDIO) Cloud Capability Analysis.

Activity: Innovative Airports

This effort will develop a concept of operations for the use of low-cost technologies to monitor aircraft movement on the airport surface, and develop a demonstration plan to support a future demo.

Target: Innovative Airports-Project Kickoff

Complete the project kickoff for the Innovative Airports effort

Target: Operational Scenarios Draft

Develop an initial Operational Scenario Document for the Innovative Airports Project.

Activity: Develop NAS Vision 2035 Workforce Development Roadmap

Develop a NAS Vision 2035 Workforce Development Roadmap indicating the learning and development activities required to prepare ANG employees for the future.

Target: Develop and Gain Agreement on a Draft Roadmap.

Develop a draft NAS Vision 2035 Workforce Development Roadmap indicating the learning and development activities required to prepare ANG employees for the future.

Target: Concurrent to the Roadmap Development, Design, Develop, and Launch a Micro-credentialing Program Related to NAS Vision 2035

Design, develop, and launch a micro-credentialing program related to NAS Vision 2035 to upskill the workforce in a related technology area.

Target: Develop a Final Approved NAS Vision 2035 Workforce Development Roadmap

Develop and gain approval of a NAS Vision 2035 Workforce Development Roadmap.

Activity: UAS Traffic Management (UTM) Data Exchange ☐ ☐

Develop and implement the data exchange formats, infrastructure, and governance for UAS Operations in the NAS.

Target: Unmanned Aircraft System (UAS Traffic Management (UTM) Pilot Program Flight Demonstrations

Conclude all UTM Pilot Program Phase 2 live flight demonstration events.

Target: Unmanned Aircraft System (UAS) Traffic Management (UTM) Pilot Program Final Report

Complete UTM Pilot Program Phase 2 research activities and provide final report.

Initiative: NextGen Portfolio Management

Collaborate with stakeholders to continually improve NextGen planning and benefits delivery.

Activity: NextGen Portfolio Management

Collaborate with stakeholders to continually improve NextGen planning and benefits delivery. Ensure all funds are executed in accordance with Federal guidelines and FAA procedures.

Target: FY21 NAS Segment Implementation (NSIP) Validation

Complete all Systems Engineering Portal changes to 2021NAS Segment Implementation Plan (NSIP) Information.

Target: Project Level Agreement (PLA) Deliverable

Quarterly report status of Project Level Agreement (PLA) deliverable execution for all active PLAs. Ensure 100% tracking of all deliverables. 12/31/2020, 03/31/2021, 6/30/2021

Activity: Flightdeck/Maintenance/System Integration Human Factors (A11.f Requirement)

The Core Flight Deck program provides the empirical research necessary for the FAA to develop products that ensure safe and efficient aircraft operations. These products include guidelines, handbooks, orders, advisory circulars, standards, and regulations. The program also provides empirical human performance data used by FAA and industry to support the design and evaluation of aircraft systems, operating procedures, and training and checking needs.

Target: Draft Phase 1 Technical Report

Examine the effectiveness & appropriateness of distance learning, particularly with respect to tablet technologies, for pilots and flight attendants in current operations.

Activity: Wake Turbulence Enhancement Of Arrivals And Departures Collaboration

International working groups are looking at enhanced methods of providing wake turbulence mitigation utilizing currently available technology. ANG-C will lead the development of wake turbulence mitigation separation standards, procedures, processes, and enabling technology research for near, mid, and far term NextGen era operations. ANG-C will assess the performance of the wake turbulence separation processes and utilize those assessments in the design of new NextGen era operations. Team will perform analysis, modeling, concept development, and data collection activities necessary to accomplish the NextGen Wake Turbulence research agenda.

Target: New Aircraft-type Wake Separation Recommendations - Final Report

Complete the final report for new aircraft-type wake separation recommendations for General Atomics MQ-9.

Target: Use of Ground Based Augmentation System

Complete the final report on the analysis of emerging satellite based navigation for wake mitigation procedures, specifically analysis of the potential use of Ground Based Augmentation System (GBAS) in lieu of ILS for 7110.308c

Activity: NextGen Flight Deck Systems:

Flight Crew Interfaces, Installation, Integration, and Operations. Evaluate minimum display and operational requirements defined by RTCA SC-186 (avionics standards DO-361A, DO—328B) for interval management (IM) applications during dependent staggered approaches (DSA).

Target: Validation of Cockpit Display of Traffic Information Display Requirements

IM DSA (Phase 2 of 2); conduct a human factors study with Part-121-pilot participants to evaluate different implementations of the minimum Cockpit Display of Traffic Information (CDTI) display requirements defined by RTCA SC-186.

Target: Validation of Cockpit Display of Traffic Information Display Requirements - White paper

IM DSA (Phase 2 of 2); Develop a white paper describing study results and targeted human factors recommendations of Cockpit Display of Traffic Information (CDTI) for FAA consideration.

Initiative: NAS / Global Standards

Collaborate with industry to establish Standards for Aviation Community.

Activity: Global Standards - Aeronautical Information Exchange Model

ANG-C will develop a strategy to improve processes and procedures that support the implementation and utilization of globally standardized Aeronautical Information Exchange Model (AIXM) across applicable FAA services.

Target: Reference Model Plan Description

Develop a plan for a reference model to include common data elements across existing FAA exchange models. The plan will outline considerations in the areas of stakeholder coordination, data sources and related coordination, and recommendations for executing the cross-reference in terms of tools, governance and maintenance.

Target: Exchange Model Agnostic Extension Process Description

Develop a plan to enable a standardized and unified way for extension requests, creation and coordination across all exchange models including Flight Information Exchange Model (FIXM), Flow Information Exchange Model (FLXM), Aeronautical Information Exchange Model (AIXM), and ICAO Meteorological Information Exchange Model (iWXXM)

Activity: NextGen Tasks, Skills, Procedures, and Training for NextGen Air Carrier Pilots

Assess the cognitive skills and knowledge required to complete flightpath management (FPM) tasks in transport category aircraft during Part-121 flight operations. To include, identifying the minimum set of Manual Flight Ops maneuvers, tasks, and KSAs needed to maintain MFO proficiency

Target: Pilot Cognitive Skills

- Verification and Validation Study (Phase 2 of 3); develop a human factors research plan which includes the proposed method(s) to verify and validate baseline cognitive skills, and a subset of flight operations and automated aircraft systems that will be evaluated.

Target: Human Factors Recommendations to Address Manual Flight Operation Proficiency Draft Report

Human Factors Recommendations to Address Flightpath Management System Dependencies – Low Altitude Terminal Operations (Phase 3 of 3)

Activity: Flight Information Exchange Model

Flight Information Exchange Model (FIXM) is the standard format of Flight Object data sent between systems, allowing more users to share flight information and coordinate on the various activities concerning a flight. The development will include U.S. specific extensions and core standard which is used internationally.

Target: Flight Information Exchange Model International Outreach

Complete Flight Information Exchange Model (FIXM) virtual workshop to increase international adoption and awareness of FIXM as well as gather community

Target: Complete Flight Information Exchange Model - US Extension

Complete Flight Information Exchange Model (FIXM) US Extension version containing updated flight data elements to meet NAS program needs.

Initiative: National Airspace System Laboratory Facilities and Services

Provide a set of world class laboratory facilities and services to support research, engineering and development, test and evaluation and maintenance of air navigation, air traffic management, and future air transportation system capabilities

Activity: William J. Hughes Technical Center Laboratory Facilities

Sustain, maintain, and improve the William J. Hughes Technical Center (WJHTC) National Airspace System (NAS) laboratory facilities.

Target: Develop Simulations to present information Display Optimization Development

Complete development on the current phase of SPIDO in preparation of a full Human-in-the-loop (HITL) simulation. This is a multi-phase effort. The first phase completed an inventory of what is out there for ERAM and to a lesser extent for STARS. The FY21 phase is to create and run a baseline simulation. The simulation developed will provide stimulus for human factors researchers to collect objective measures of the impact of more complex aircraft representations (on visual scanning, information processing, and controller interaction performance).

Target: Maintain International Organization for Standardization (ISO) 9001 Certification

Maintain International Organizational Standard (ISO) certification by meeting or exceeding customer requirements by maintaining a customer feedback response rating of 3.5 or higher out of a possible 5.0.

Target: Complete DESIREE Enhancements

Enhance the research and development of air traffic simulation software DESIREE to better reflect the latest operational terminal system environment (STARS). Enhancements include electronic controller coordination and enhanced aircraft sequencing and spacing tools. In order for the air traffic simulation software to remain effective and relevant to our Air Traffic Control participants, DESIREE must be periodically enhanced to match the capabilities which have been delivered to the field for the various automation systems.

Target: Execute Space and Infrastructure Master Plan Projects

Initiate 70% of planned Space and Infrastructure Master Plan projects scheduled for FY2021. This will help ensure that the overall Laboratory Space and Infrastructure Master Plan and associated projects are kept on schedule.

Target: Update Cockpit Simulation Facility Simulator

Upgrade all Cockpit Simulation Facility (CSF) simulators to a common software platform. This will simplify the maintenance and support across the platforms, which will increase efficiency and reduce risk.

Initiative: National Airspace System Test and Evaluation

Test, analyze, and evaluate systems and services to verify and validate (V&V) that products meet specifications, satisfy requirements, and are operationally suitable and effective.

Activity: Develop, Socialize, and Implement Verification and Validation Strategies and Practices.

Conduct independent assessments of test work products and acquisition work products requiring verification and validation (V&V), based on established standards, in support of organizational and acquisition program objectives.

Target: Apply Test and Evaluation Handbook

Conduct 90% independent review of the William J. Hughes Technical Center's (WJHTC's) test work products for projects following the Test and Evaluation (T&E) Handbook in order to deliver the annual T&E Performance Report (quality assessment of T&E services/products and process improvement recommendations). .

Target: Conduct Verification and Validation Summit

Host the Annual Verification and Validation (V&V) Summit in order to engage the V&V/T&E community to promote best practices, explore innovative, new and practical ways to support acquisitions of aviation systems and capabilities, and highlight organizational, technical and cultural challenges and mitigation strategies. Incorporate improved methods and tools into V&V/T&E guidelines, standards and quality improvement initiatives. Establish new collaborative working relationships with industry and government organizations that advance FAA missions and outcomes.

Activity: Provide Test and Evaluation Services to Support Implementation of National Airspace System Systems and Services

Provide quality test and evaluation (T&E) and analysis products and services to ensure that current National Airspace Systems (NAS) and future air transportation systems are verified and validated using best practices and quality standards.

Target: Prepare Portfolio Reviews for Customers

Prepare for Portfolio Review with Program Management Organization (PMO) Executive Leadership (AJM-2, AJM-3, AJM-4).

Target: Deliver Test Documentation

Deliver test documentation as specified in FY21 Project Scope Agreements (PjSAs) with Program Office sponsors and customers for acquisition programs and projects requiring test services (Aeronautical Info., Mission Support, Air Traffic Management, Communications, Decision Support Systems, Flight Service, Navigation, Surveillance, and Weather).

> ### Target: Biannual International Organization for Standardization Management Reviews

> Maintain International Organization for Standardization (ISO) certification by conducting biannual management reviews.

Initiative: Modernization of William J. Hughes Technical Center's Operations and Infrastructure

Modernization of technical center's infrastructure to ensure facilities operate efficiently and effectively.

Activity: Design and Engineer facility Improvements to William J. Hughes Technical Center

Design and engineer facility improvements to William J. Hughes Technical Center (WJHTC).

> #### Target: Complete Construction and Replacement

> Complete construction of building 303's central utilities plant electrical switch-gear and chillers 2 and 3 replacement.

> #### Target: Execute mold remediation projects.

> Technical and Administrative Building 300 mold removal and AC-6, 7, and 8 Replacement projects. Complete construction of the 2nd floor.

Initiative: Tech Transfer

Facilitate the transition of technologies and capabilities between ANG, FAA, other agencies, and industry.

Activity: Complete Tech Transfer

Description: Create visibility around tech transfer work to ensure overall benefit to the NAS.

> #### Target: Complete Tech Transfer (T2)

> Submit final T2 Record of Activities for executive review and approval.

Activity: Reduced Weather Impact (RWI) - Weather Forecast Improvements

The Weather Forecast Improvements (WFI) program addresses the need to improve weather prediction and the use of weather information in the future NAS. National Weather Service (NWS) forecast models will be integrated into models that forecast weather impacts for aviation purposes. In today's NAS, traffic managers and users must mentally interpret weather conditions and the potential impact of weather on ATC decisions. WFI will improve the accuracy of aviation weather information, to include the automated objective indication of the constraints placed on the NAS, and incorporate this data into collaborative and dynamic decision-making.

> #### Target: Complete Precipitation on the Glass Initial Requirements.

> Complete Precipitation on the Glass Initial Requirements. Develop initial set of functional and performance requirements for improved precipitation data on terminal controller primary displays in response to Operational Needs Assessment

Target: Complete Report for FAA's input to FY2022 Federal Weather Enterprise Budget and Coordination Report (BCR)

Complete Report for FAA's input to FY2022 Federal Weather Enterprise Budget and Coordination Report (BCR)

Activity: New ATM - Weather Transition

Identifies research concepts and capabilities that have appropriately matured and transitions them from RE&D to F&E funding. This PLA manages AMS Concept Maturity and Technical Development (CMTD) activities. It funds the development of Pre-CRDR AMS artifacts. It supports the transition of weather capabilities to FAA operational platforms. This program also supports the transition of aviation weather research to the National Weather Service (NWS) for operational production of weather capabilities to FAA platforms.

Target: Complete the draft Weather Requirements

Complete the draft Weather Requirements Weather Needs Prioritization List in order to prioritize the weather needs entering into the Weather Requirements Process based on the established Project Prioritization Criteria

Target: Complete a Concept Definition Report

Complete a Concept Definition Report that will document an overarching list of potential weather capabilities to provide to FAA operations and introduce steps in the evolution of the weather Enterprise Architecture to achieve performance capabilities to support the National Airspace System (NAS

Activity: Reduced Weather Impact-Weather Observations Improvement (RWI-WOI)

WOI explores mitigating automated winter weather sensing shortfalls in the ground-based weather observation network via the vetting of technology solutions. WOI has initiated a work package which aims to deliver a technical approach for improving ASOS's capability to report multiple precipitation types and intensities as defined by an integrated product team including the solution implementer, the Weather Sensors Program Management Office, and key users, such as Flight Standards de/anti-icing research teams and aircraft certification stakeholders. The initial phase of this work package includes analyzing associated shortfalls, system design documents, engineering risk mitigation and mixed precipitation modeling and demonstration capabilities.

Target: Final Shortfall Analysis Document

Final document answers the operational, functional and performance present weather detection and reporting needs not currently defined in existing ASOS/AWOS literature (most of which dates back to the 1980s when such requirements were more sparsely documented)

Target: Complete Engineering Risk Analysis Document

Quantify risks associated with automating present weather observing from what is currently a human-based computational process for detecting multiple precipitation types and intensities.

Initiative: Research and Development Management

A vibrant aviation sector relies on a safe, efficient, and cost-effective aerospace system. To that end, the FAA will invest in and manage a research and development portfolio that engages aviation stakeholders across industry, academia, and federal partners to promote aviation technology innovation, enable new entrants, leverage non-federal research investments and prioritize FAA investments to address critical industry needs and drivers.

Activity: Provide Partnership Opportunities to Industry, Academia, or government via Various Agreements

Author and manage new agreements and participate in symposiums, reviews, and meetings.

Target: Conduct Fee for Service Program Viability Study

Conduct a study to explore, analyze, and present quantitative measures of the likely demand for William J. Hughes Technical Center (WHJHTC) laboratory services in an effort to expand Fee for Service (FFS) into a viable program.

Target: Conduct Big Data Analytics Working Group Workforce Activities

Promote big data analytics technology education across the ANG technical workforce by identifying and recommending learning opportunities/events for inclusion in appropriate ANG workforce development career roadmaps and conducting four big data analytical events for the ANG technical workforce.

Activity: Manage the planning and coordination of the Research and Development Portfolio

Manage the planning and coordination of the Research and Development (R&D) portfolio to ensure alignment with departmental and agency R&D priorities.

Target: Annual Modal Research Plan

Submit Annual Modal Research Plan (AMRP) to OST-R.

Target: Coordinate development of the FY23 RE&D portfolio.

Develop and coordinate FY23 RE&D portfolio with the Research Engineering & Development Executive Board (REB).

Target: Obtain approval of REDAC reconfiguration.

Develop and present for approval the REDAC redesign strategy to incorporate industry work and perspective.

Target: Develop and submit OST R&D Fiscal Year 2022 Spend Plan

Submit the FY2022 Spend Plan to OST-R.

Target: Submit NARP 2021 - 2026

Prepare and submit National Aviation Research Plan (NARP) 2021-2026 for LOB Concurrence.

Deployment of Innovation

Accelerate and expand the deployment of new technologies and practices by reducing barriers to innovation and actively promoting innovations that enhance the safety and performance of the Nation's transportation system.

Initiative: Security Governance

Ensure that security strategies align with business objectives, adhere to policies and internal controls, and are consistent with applicable laws and regulations.

Activity: Policy, Training & Customer Liaison

Develop and update FAA IT Security policies and interpret policy and other regulatory requirements related to cybersecurity; assist with developing standard operating procedures and policy; and oversee annual Security and Privacy Awareness Training, Information Security System (ISS) key personnel role based training, and other information security and privacy training as needed.

Target: FAA Order 1370.121A Restructure

Provide a complete draft restructure of FAA Order 1370.121A into more manageable documents utilizing a cross-organizational working group consisting of representatives from the Cybersecurity Steering Committee (CSC) Working Group (WG) to specify the organization, structure and content of the FAA Cybersecurity and Privacy Policy.

Initiative: Remote Towers

The FAA will work with commercial vendors to support approval of Remote Tower Systems. These systems will potentially provide more cost effective solutions to traditional brick and mortar towers, especially for smaller rural communities.

Activity: Remote Towers

Work with ATO Technical Operations and Air Traffic Services to: 1) develop a strategy for long term Remote Tower integration into the NAS and 2) develop a documented process to achieve the approval to integrate Remote Tower systems as an option especially for smaller rural communities.

People Accountability

Strengthen our current and future aviation workforce by holding ourselves accountable, developing our people and planning for the aviation workforce of the future

Regulatory Reform

Reduce current regulatory burdens and bureaucracy to ensure a safe, efficient, accessible, and convenient transportation system for people and commerce.

Initiative: EEO/Diversity and Inclusion Action Committee (EAC)

Utilize the EEO Action Committee (EAC) to collaborate and support a diverse and inclusive workplace with existing employee workgroups and LOBs/SOs to create an inclusive work environment.

Activity: ANG Ensure a Diverse and Inclusive Workforce

• ANG in collaboration with the LOB/SO's will complete activities that will foster a diverse and inclusive workplace and improve the Reasonable Accommodation interactive process.
• Assist in the development of a diverse workforce at all levels. Increase the representation of Persons with Targeted Disabilities (PWTD), Hispanics, and Women in the workforce as compared to the civilian labor workforce (CLF). .
• Managers engage in the mediation/facilitation process.

Target: Reasonable Accommodations

Ensure 90% of ANG reasonable accommodation requests are processed within 25 business days or less.

Target: Improve Participation/Outreach

Support ACR in the development of strategies to improve the representation of Persons with Targeted Disabilities (PWTD), Hispanics, and Women by providing resources and data analysis to increase the workforce as compared to the civilian labor workforce (CLF) and/or MD-715, Part J). These strategies will address hiring, training, career progression opportunities and will be deployed and tracked through the EAC Workgroups.

Target: Mediation

Ensure that 75% of all (Insert your LOB/SO) managers engage in mediation when requested by employees.

Mission Efficiency and Support

Support mission requirements by efficiency and effectively planning for and managing human capital, finances, procurement, sustainable operations, information technology, emergency preparedness, and other mission support services.

Initiative: Contracting Opportunities for Small Businesses

Support small businesses and job creation by providing opportunities for small businesses to attain FAA contracts and purchase orders, with special emphasis on procurement opportunities for socially and economically disadvantaged small businesses (including 8(a) certified firms), service-disabled veteran-owned small businesses, and women owned small businesses.

Activity: Contracting with Small Businesses

Utilize market analysis and acquisition strategies to provide opportunities for small businesses to compete for and attain FAA contracts and purchase orders, with special emphasis on procurement opportunities for socially and economically disadvantaged small businesses (including 8(a) certified firms), service-disabled veteran-owned small businesses, and women owned small businesses.

Target: ANG-A - Support ACQ's Small Business efforts

Support ACQ's efforts to ensure 25% of the Agency's total direct procurement dollars are awarded to small businesses.

Initiative: Strong Acquisition Workforce

Ensure FAA has the staffing and skill mix to successfully manage NextGen and other major acquisitions by implementing training, developing and certifying personnel in key acquisition professions.

Activity: Train and Certify FAA's Acquisition Workforce

Attain and maintain certification requirements of program managers (PMs) and contracting officers.

Target: Attain and maintain certification requirements

90% of program managers (PMs) on Office of Management and Budget (OMB) major acquisition programs attain/maintain certification requirements for their positions.

Initiative: Contract Administration, Agreements, and Grant Management (Organizational Efficiency)

Perform contract, agreements, and grant administration managed by ANG-A.

Activity: Forecasting; Acquisition and Grants Planning; Acquisition and Grants Support Reporting

Develop, manage and implement acquisition strategy to improve contract award process.

Target: Quarterly Procurement and Grants Forecast Reports

Provide quarterly Procurement and Grants Forecast Reports to each ANG Directorate for situational awareness. Due Date: 10/31/2020, 01/31/2021, 04/30/2021, 07/31/2021

Target: Provide ANG Senior Management Contract and Grant Status Report

Provide ANG senior management with Contract and Grant Status Reports monthly to support regular and accountability for customers utilizing active contracts and grants. Track and manage key administration and management progress to include award of new task orders and grants, along with associated modifications and options - Report status and progress quarterly to each ANG Directorate.

Activity: Center for Advanced Aviation System Development

Proactively administer contracts to provide improved communication and customer service.

Target: Center for Advanced Aviation System Development Work Plan

Develop Center for Advanced Aviation System Development (CAASD) FY22 Work Plan.

Target: Center for Advanced Aviation System Development Contract Renewal SOP - Draft

Develop standard operating procedure (SOP) to document the steps required (along with sample artifacts) to renew the Center for Advanced Aviation System Development (CAASD) Contract when it expires in 2035.

Target: Center for Advanced Aviation System Development Contract Renewal Standard Operating Procedure - Final

Develop standard operating procedure (SOP) to document the steps required (along with sample artifacts) to renew the Center for Advanced Aviation System Development (CAASD) Contract when it expires in 2035.

Activity: Technical Service Contracts

Proactively administer contracts to provide effective communication and customer service.

Target: Execute Memorandum of Understanding (MOU)

Execute Memorandum of Understanding (MOU) with all Lines of Business (LOBs) supported from the Systems Engineering and Development Support Budget Line item (BLI).

Activity: Grant Management

Continue to evolve and mature the new Grants Management Branch.

Target: Grant Management Process for Grantee - Draft

Submit draft grant management process for grantee for senior leadership review and feedback.

Target: Grant Management Process for Grantee - Approval

Submit final grant management process for grantee update for senior leadership review and approval.

Target: FAA Research and Development Grants Order - Draft

Identify and Assess existing FAA Grant related Orders. Submit a new draft FAA Research and Development Grants Order for senior leadership review and feedback.

Target: FAA Research and Development Grants Order - Final

Identify and Assess existing FAA Grant related Orders. Submit final FAA Research and Development Grants Order for senior leadership review and approval.

Initiative: Financial Management and Organizational Planning (Organizational Efficiency)

Implement improvements to enhance NextGen financial management. Ensure all funds are executed in accordance with federal guidelines and FAA procedures; Develop and Maintain ANG Strategic and Core Business Plan.

Activity: ANG Business Planning

Lead ANG leadership and planners in the coordination and development of the upcoming fiscal year's business plan to establish FY21 priorities and linkages to work units.

Target: ANG's Business Plan Framework

Facilitate leadership review and update of ANG's Business Plan Framework to establish upcoming fiscal year objectives and initiatives.

Target: Conduct ANG Business Plan Kickoff

Conduct ANG Business Plan Kickoff to deliver the upcoming fiscal year business plan development guidance, requirements and timelines to ANG planners.

Target: Conduct Directorate-level Meetings

Conduct directorate-level meetings to review potential activities supporting preliminary ANG priorities.

Target: Conduct One-on-One Reviews

Coordinate individual ANG-1 meetings with directorates to review directorate-level activities supporting the priorities.

Target: Upcoming Fiscal Year ANG Business Plan

Gain ANG Leadership approval of upcoming fiscal year ANG Business Plan for submission to APO via SPIRE SBM.

Target: Monthly Performance Review Documents

Distribute Monthly Performance Review (MPR) documents to ANG leadership no later than five business days before scheduled meeting at least 80 percent of the time.

Target: ANG Management Workshops

Conduct two ANG management workshops on business planning.

Activity: Budget Formulation, Execution and Planning

Lead development of annual budget submissions (OST, OMB and President's) and execute enacted budget in accordance with agency policy and regulations.

Target: Timely Delivery of Annual Budget Submissions

Collaborate across ANG Directorates to ensure timely delivery of annual budget submissions in accordance with FAA timelines and provide a monthly assessment of F&E, OPS and R,E&D budget obligation rates (Due monthly).

Target: Perform Fund Certification Activities

Perform fund certification activities within 3 business days of receipt of obligating documents that comply with FAA policy and regulations for 85 percent of randomly selected transactions, averaged over the fiscal year. (The statistical analysis is conducted once every quarter. DUE: 10/31/2020, 1/31/2021, 4/30/2021 and 7/31/2021).

Activity: Financial Reporting

Compile, assess, and allocate human and financial resources for the ANG organization to provide information on how resources are allocated across business plan activities.

Target: FY21 Resource Program Management Review

Conduct initial fiscal Resource Program Management Review (RPMR) for all directorates to capture personnel and fiscal resources allocated in executing FY21 Business Plan priorities.

Target: Final FY21 Resource Program Management Review

Conduct final fiscal Resource Program Management Review (RPMR) for all directorates to estimate personnel and fiscal resources required to execute FY21 Business Plan priorities.

Initiative: Enabling Employee Services (Invest in ANG's Workforce)

Enable an agile, productive and effective workforce. Provide resources and a work environment that anticipate and fulfill employee needs, foster a people-first and mission-always culture, and lead to enhanced performance and mission success.

Activity: ANG- A22 Standard Operational Procedures

Implement and mature system developed in FY19 to improve customer experience and service delivery efficiency and reporting.

Target: Create Critical Standard Operating Procedures (SOPs) for A22 Branch Operations

Identify standard operating procedures (SOPs) to be created for three critical branch functions (i.e., personnel actions, space, wireless) to ensure continuity of service and more effective and efficient service to customers.

Target: Draft Three (3) Standard Operating Procedures for Critical Operational Areas

Develop three (3) draft SOP's detailing processes for three (3) critical operational areas.

Target: Finalize Critical Operational Areas Standard Operating Procedures

Finalize the three critical operational areas standard operating procedures (SOPs) for distribution.

Activity: Human Capital and Position Management Reports

Create a set of standards, easy to digest reports that provide leadership with accurate and timely status of positions and facilitate resource allocation and hiring decisions.

Target: Define Human Capital and Position Management Reports

Define content, format and release schedule for human capital and position management reports that will be created and published in FY21.

Target: Design Human Capital and Position Management Reports in Tableau

Create a set of Tableau reports which provide leadership with accurate and timely human capital and position management data to facilitate effective and efficient workforce planning.

Target: Create and Publish Human Capital and Position Management Reports

Develop process for and begin publishing new human capital and position management reports in Tableau.

Initiative: Workforce Development and Recruiting (Invest in ANG's Workforce)

Maintain a highly skilled workforce. Recruit and develop workforce to meet future demands and challenges and fulfill technical and managerial needs.

Activity: Rotational Development Exchange Program

Design, develop and pilot rotational development or exchange program to enhance selected knowledge and/or skill(s) of non-managers.

Target: Design and Develop Rotational Development Exchange Program

Design a rotational development program for non-managers to increases leadership skills, technical skills and competencies.

Target: Prepare and distribute quarterly report on Rotational Development Exchange Program implementation status

Prepare presentation and justification for senior management review and approval of Rotational Development Exchange (RDE) Program.

Target: Develop Rotational Development Exchange Detail Assignment Calendar as provided in Program Implementation Plan

Design and develop calendar of rotational development detail assignments within ANG and in collaboration with other FAA LOB/SO's.

Target: Rotational Development Exchange Merger in support of the ANG Succession Plan

Equip workforce with technical and non-technical knowledge and skills to foster innovation, create solutions, and positively influence others in service of mission accomplishment.

Target: Pilot the Rotational Development Program

Pilot the program by offering up to five detail opportunities within ANG.

Activity: Technical Curriculum Implementation

Equip workforce with technical and non-technical knowledge and skills to foster innovation, create solutions, and positively influence others in service of mission accomplishment.

Target: Training Events

Each month, distribute a three-month rolling calendar of upcoming training events and associated seat allocations to each ANG Directorate for use in matching and enrolling employees with most valuable opportunities. (Due: By the 15th of the month prior to when calendar is effective).

Target: Publish & Distribute Monthly Report

Publish and distribute a monthly report of: 1) enrollments and seats available by Directorate for each sponsored Tech Curriculum course to be delivered in the upcoming month; and 2) completions by Directorate for courses delivered in the prior month. (Due: By 20th business day of each month.) Publish and distribute a weekly Corporate Training Report of training completions status and distribute to ANG Managers to reflect completions and progress only. Otherwise will be reflected in a monthly report.

Target: Tech Talks Speaker-Series

Bring in and promote at least eight speakers over the year from inside and outside the FAA as part of ANG's Tech Talk Tuesday speaker series.

Target: Tech Curriculum Training Tracking and Reporting

Monthly, upload into eLMS each Directorates Tech Curriculum training from their planned tech curriculum training schedules. Create and deliver the required training format for transmission and delivery of the training data to be uploaded to eLMS and the ANG Action Tracker and share with Directorate training POCs. All Tech Curriculum Training recorded must be uploaded to employee learning profiles within 30 days of receipt from the Directorate POCs.

Activity: New Employee Onboarding

Establish process for employee onboarding to support seamless transition for employees into ANG.

Target: Update Onboarding KSN

Review and redesign onboarding KSN. Update all outdated information with the most relevant information.

Target: Develop Onboarding Standard Operating Procedures (SOP)

Create standard operating procedures (SOP) detailing onboarding process.

Target: Conduct Onboarding Training For Managers

Conduct at least two (2) virtual manager training sessions on the onboarding process.

Activity: Recruitment - NextGen Gateway Program

Recruit and hire student Interns to assist in the agencies succession planning goals.

Target: Recruit Students

Subject to position availability, recruit new students into the NextGen Gateway student internship program in order to assist in the agency's succession planning.

Target: Convert to Full-Time Permanent Employees

Subject to position and funding availability, convert program participants to full-time permanent employees without further competition, after successful completion of the program.

Activity: Managerial Leadership Development for Non-managers

Build capabilities of non-managers to perform more effectively and produce positive outcomes in informal or formal leadership and managerial roles.

Target: Non-management Leadership Development Curriculum

Continue to offer monthly training and development courses to ANG non-managerial workforce throughout the year with emphasis on enhancing managerial and leadership competencies.

Target: Assess Use and Impact of Resources Guide (formerly PE Guide)

Assess use and impact of Resources Guide, recommend changes to promotional plan or guide to bolster use and impact, and prepare concise briefing or paper documenting results each quarter beginning 12/31/20 and each quarter thereafter.

Activity: Institutionalize the Technical and Research and Development Curricula

Collaborate across the ANG organization to continue to socialize and institutionalize the technical and research and development curricula.

Target: Create Accountability

Establish a curriculum ambassador/business partner role to oversee the evolution of the curricula, engage employees and managers, and create accountability for further curricula implementation and maintenance.

Target: Monitor and Evaluate Effectiveness

Establish metrics and feedback methods to monitor and evaluate the effectiveness of the technical and research and development curricula.

Target: Align Processes and Systems

Collaborate with ANG-A and managers to integrate curricula components into the recruitment, onboarding, and performance management processes.

Activity: Implement Comprehensive Cybersecurity Education and Training

Review the cybersecurity courses included in the Technical and R&D Curricula and augment as required to develop comprehensive cybersecurity education and training for the workforce.

Target: Define Comprehensive Cybersecurity Education and Training

Define a comprehensive set of cybersecurity education and training activities, include in the Technical and R&D Curricula, and socialize with appropriate employees and managers.

Target: Align to the National Academy of Sciences Cybersecurity Workforce Study as Related to ANG

Determine the implications of the National Academy of Sciences Cybersecurity Workforce Study on the ANG workforce and align recommended cybersecurity education and training as indicated.

Activity: ANG Staffing and Affordability

Conduct quarterly/semi-annual staffing affordability assessments to determine position allocation assignments for ANG directorates. This effort will provide the framework through which prioritized backfills will be made based on funding type and organizational need.

Target: Conduct Assessments

Conduct quarterly/semi-annual affordability assessment, by appropriation .

Target: Prioritize Staffing Requirements

Compile prioritized staffing requirements, by directorate, within 10 business days of affordability assessment.

Target: Conduct ANG Leadership Staffing Reviews

Brief ANG-1 on directorate submissions for approval to backfill.

Target: Submit Personnel Actions

Submit personnel action requests to AHR within 7 business days of ANG-1 approval to backfill

Initiative: FAA WJHTC Management and Support

Provide key Research and Development, Test and Evaluation, Laboratory Services and Facility Operations to support the mission of the FAA and ANG.

Activity: Conduct key activities in support of the FAA and ANG's mission

Provide key research and development, test and evaluation and laboratory and facility services

Target: Complete 90% of the T&E and Separation Standards targets in ANG-E's FY-21 Business Plan

Complete 90% of T&E and Separation Standards targets in ANG-E's FY-21 Business Plan

Target: Complete 90% of the Laboratory and Facility Operations targets

Complete 90% of Laboratory and Facility Operations targets in ANG-E's FY-21 Business Plan

Target: Complete 90% of the Research and Development targets

Complete 90% of the Research and Development targets in ANG-E's FY-21 Business Plan

Initiative: AIS Key Operational and Project Management Activities

This initiative represents key activities and projects performed by AIS which are not clearly aligned under other AFN Initiatives and serves as a repository for short term incentives for AIT Executives.

Activity: Cybersecurity Workforce Assessment Act

Collaborate to implement the approved Agency approach to meet requirements of the Cybersecurity Workforce Assessment Act.

Target: Report to Congress: National Academy of Sciences Cybersecurity Workforce Study

Coordinate with Cybersecurity Steering Committee (CSC) representatives to review the results of the National Academy of Sciences cybersecurity workforce study, develop an implementation plan, and prepare a report to Congress. Submit to AFN-1 for review and comments.

Global Leadership

Advance global aviation safety, operational excellence and innovation by leading and collaborating with aviation authorities globally

Higher Level of safety and security globally

Advancing the safety and security of commercial aviation is a complex, multi-faceted and continually evolving challenge with an array of important stakeholders required to achieve success.

Initiative: National Airspace System Global Information Security Standards

Collaborate with ICAO, Eurocontrol, Single European Sky Air Traffic Management (ATM) Research (SESAR), and other international partners to plan and develop a cybersecurity proof of concept to inform ICAO of requirements and policies needed to realize a global trust framework and to integrate the cybersecurity concept of operations into the Global Air Navigation Plan.

Activity: Evolve NAS Global Information Security Standards

Collaborate with ICAO, Eurocontrol, Single European Sky ATM Research (SESAR), and other international partners to develop a cyber-security proof of concept to inform ICAO of requirements and policies needed to realize a global trust framework and to integrate the Cybersecurity concept of operations into the Global Air Navigation Plan.

Target: Draft International Aviation Trust Framework Bylaws

Working with ICAO Trust Framework study group to deliver the International Aviation Trust Framework (IATF) Bylaws to the ICAO Air Navigation Bureau.

Target: Demonstrate End-to-End Message Integrity Protection Between EUROCONTROL and FAA

Perform a live demonstration of signing and verification of a System Wide Information Management (SWIM) service using the International Aviation Trust Framework (IATF) public key infrastructure and the Enterprise Security Harmonization Proof of Concept (ESHPOC) software.

Enhance Collaboration in Support of International Engagement

Increased engagement, collaboration and assistance globally can increase the acceptance of U.S. standards and products.

Initiative: ANG International Harmonization

In alignment with the FAA and the ANG International strategy, promote the international acceptance of NextGen policies, procedures and technologies. Work with identified air traffic modernization partners, through established bilateral and multilateral mechanisms, to harmonize identified efforts with NextGen and assess opportunities to establish new opportunities.

Activity: ANG International Collaboration

In alignment with the NextGen International Strategy by September 30, 2021, develop and submit a report on the status of NextGen's Tier 3 partners (currently the Association of South East Asian Nations, China, India and Russia) and their feasibility of elevation to Tier 2. The report will include a review of current and past air traffic modernization work and a risk based analysis to determine harmonization success. If a country or group is deemed feasible, develop a proposed FAA work plan in conjunction with international Line of Business and Staff Offices (LOB/SO).

Target: Tier 1 Partners

In coordination with our Tier 1 partners, attend established bilateral or multilateral meetings and events. Garner agreement to promote NextGen programs and policies into global plans and standards, promoting harmonization with NextGen.

Target: Tier 2 Partners

In coordination with the FAA international LOB/SOs, identify engagement opportunities for bilateral or multilateral meetings and events with Tier 2 partners pursuing Air Traffic Management (ATM) modernization that could be harmonized with NextGen and participate as necessary.

Target: Tier 3 Partners

In coordination with the Office of International Affairs (API), assess opportunities to pursue bilateral or multilateral meetings and events to participate with Tier 3 partners to promote Air Traffic Management (ATM) modernization.