



**Federal Aviation  
Administration**

AVS Research, Engineering  
and Development

# AVS RE&D Portfolio:

## Unmanned Aircraft Systems Research (A11L) Research Plan: 2022- 2027



January 26, 2022

## Part 1: BLI Definition and Scope

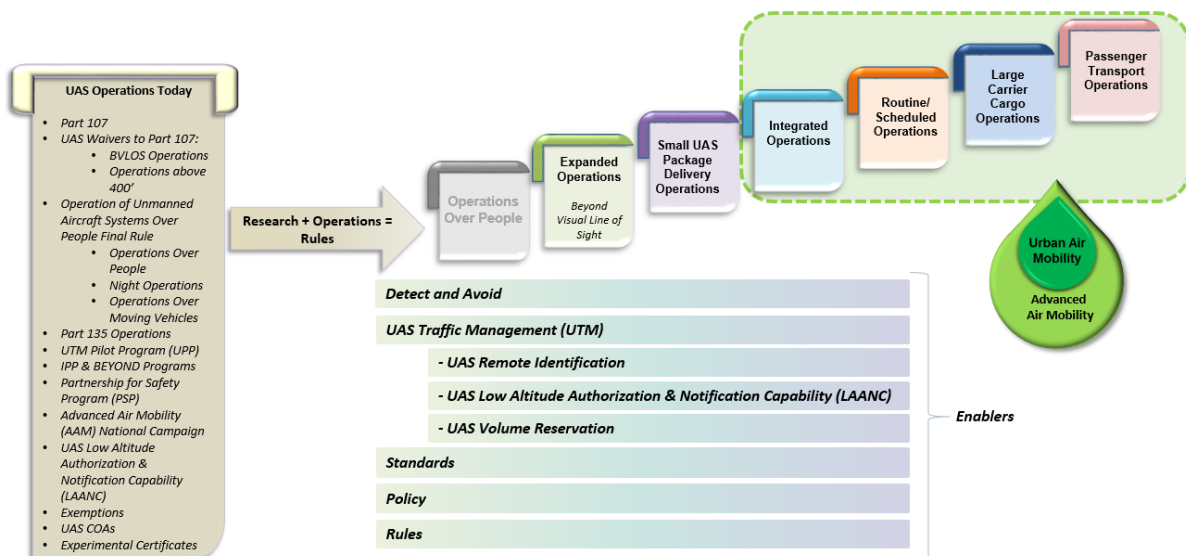
### Program Area: Unmanned Aircraft Systems Research (A11L)

#### *FAA Domain: Aviation Performance and Planning*

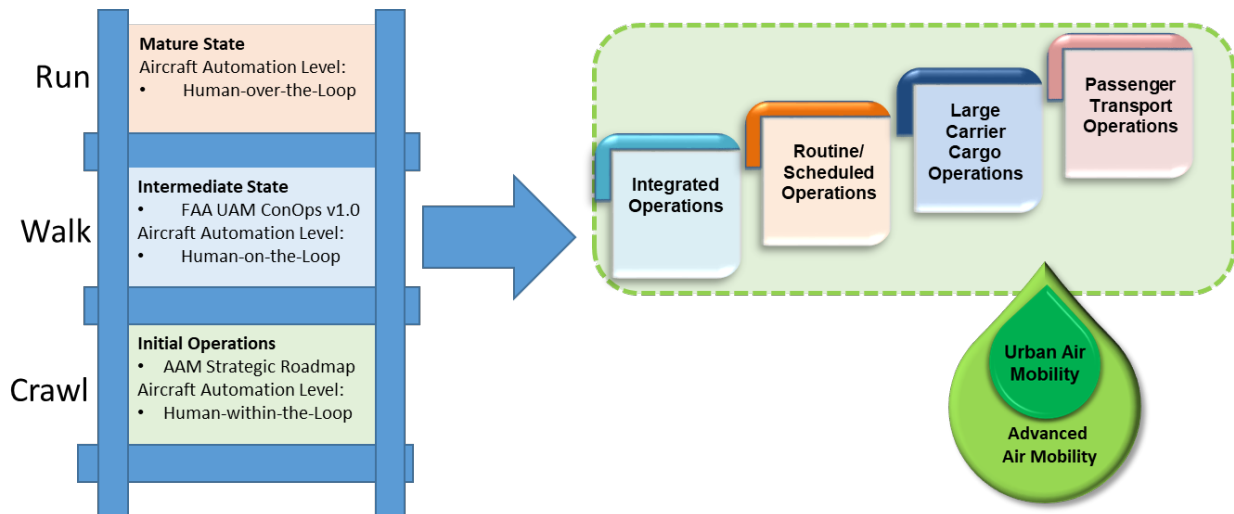
### BLI Scope: Unmanned Aircraft Systems Research (UAS)

The Federal Aviation Administration's (FAA's) annual five-year Unmanned Aircraft Systems (UAS)/Advanced Air Mobility (AAM) Integration Research Plan is supported by this Research, Engineering & Development (RE&D) Budget Line Item (BLI) and other appropriations. This BLI supports a one FAA and one Aviation Safety Line of Business (AVS) approach to safe and efficient integration of UAS into the National Airspace System (NAS). Research is the foundation of FAA/AVS UAS/AAM integration activities, and is phased by operational capabilities, providing a streamlined pathway to safe UAS/AAM integration. This phased approach will enable a managed risk-based incremental expansion of airspace access for UAS/AAM in the NAS over the next few years. The FAA is increasingly enabling UAS operations moving from waivers and exemptions on a case-by-case basis to expanded operations through rulemaking including Remote Identification (ID), Operations over People (including Operations over Moving Vehicles and Night Operations). By collecting information and lessons learned, the FAA will be more informed and better positioned for additional UAS/AAM rulemaking. The integration of UAS and AAM into the NAS is moving forward and progressing from operations within visual line of sight to missions beyond visual line of sight (BVLOS). UAS/AAM research informs the development of rules, policies, procedures, standards, decisions, and other outcomes needed to safely integrate UAS/AAM into the NAS.

### Categorizing UAS Integration Research: Research Informs Operational Capabilities



In the context of the FAA's UAS/AAM research planning, the AAM aspect focuses on the intersection between UAS and AAM. This intersection includes operations that may be optionally piloted, remotely piloted, or autonomous, and it includes Urban Air Mobility (UAM) and Regional Air Mobility. The FAA will incrementally expand the operational envelope to meet the vision of advancing toward highly autonomous aircraft able to transport passengers in dense airspaces. The FAA recognizes that AAM is growing at an accelerated pace and will leverage advances in UAS technologies and operations to make the vision of full AAM and UAS integration possible. Operational capabilities that intersect with AAM are Integrated Operations, Routine/Scheduled Operations, Large Carrier Cargo Operations, and Passenger Transport Operations. The evolution of AAM follows a crawl-walk-run approach.



## Part 2: Service/Office Research Requirements and Research Gap Analysis

### 1.0 Operational Capability: *Expanded Operations*

**Definition:** This research leverages previous part 107 small Unmanned Aircraft Systems (UAS) operations over people and lessons learned to enable safe and secure Beyond Visual Line of Sight (BVLOS) operations.

**Primary S/O:** Sabrina Saunders-Hodge, AUS-300


**Secondary S/O:** The research efforts to achieve this operational capability will be co-sponsored by multiple Service/Sponsor Offices across the FAA.

**S/O Priority:** UAS Operational Capability 1

**Outcomes:**

- **Access and Approval:** Validation of UAS operations to streamline operational approval processes
- **Airspace Integration:** Enhancements to the National Airspace System (NAS) including traffic management concepts
- **Capabilities and Systems:** Deployment of technologies and development of system components
- **Certification:** UAS design, production, and airworthiness requirements
- **Concept Development:** Developing and maturing operational scenarios, use cases, and concept of operations (ConOps)
- **Forecast:** Estimating the time and location of types, numbers, and effects of UAS operations
- **Policies:** Policies, regulations, and processes
- **Procedures:** Modification or addition of procedures for Air Traffic Control (ATC), operators, manufacturers, or maintainers
- **Requirements:** Performance thresholds and system constraints
- **Standards:** Development and validation of UAS safety and security standards
- **Training:** Qualification of UAS pilots, crew, and supporting workforce

### Research Gap Analysis

| Research Questions  | Contribution | Research Output  |
|---|--------------|--|
|  <p>1.1 What are the safety impacts of expanded operations on the NAS?</p> | 10%          | Please refer to <b>Edition 5 (2021-2026) of the FAA UAS/AAM Integration Research Plan section: Expanded Operations</b> to view the mapping of research questions and activities outlined for this operational capability and its objective(s). |
| 1.2 What are viable meteorological data collection and analysis capabilities required to effectively  | 10%          | Please refer to <b>Edition 5 (2021-2026) of the FAA UAS/AAM Integration Research Plan section: Expanded Operations</b> to  |

|   |     |  |
|---|-----|--|
| inform performance based standards for expanded operations in the NAS?  |     | view the mapping of research questions and activities outlined for this operational capability and its objective(s).   |
| 1.3 What are the system and technology performance requirements for expanded operations in the NAS?   | 20% | Please refer to <b>Edition 5 (2021-2026) of the FAA UAS/AAM Integration Research Plan section: Expanded Operations</b> to view the mapping of research questions and activities outlined for this operational capability and its objective(s). |
| 1.4 What are the airworthiness certification requirements for UAS/AAM aircraft and sub-systems to enable safe expanded operations in the NAS? | 20% | Please refer to <b>Edition 5 (2021-2026) of the FAA UAS/AAM Integration Research Plan section: Expanded Operations</b> to view the mapping of research questions and activities outlined for this operational capability and its objective(s). |
| 1.5 What are the requirements for automated systems and multiple UAS operations for expanded operations in the NAS?                           | 20% | Please refer to <b>Edition 5 (2021-2026) of the FAA UAS/AAM Integration Research Plan section: Expanded Operations</b> to view the mapping of research questions and activities outlined for this operational capability and its objective(s). |
| 1.6 What are the methods and systems for optimum UAS/AAM safety and operational data collection and reporting for expanded operations?        | 20% | Please refer to <b>Edition 5 (2021-2026) of the FAA UAS/AAM Integration Research Plan section: Expanded Operations</b> to view the mapping of research questions and activities outlined for this operational capability and its objective(s). |

## 2.0 Operational Capability: *Small UAS Package Delivery Operations*

**Definition:** This research will yield the data necessary to extend the capabilities of Expanded Operations to enable small Unmanned Aircraft Systems (sUAS) fleet operators to conduct safe and secure operations for delivering or retrieving packages.

**Primary S/O:** Sabrina Saunders-Hodge, AUS-300


**Secondary S/O:** The research efforts to achieve this operational capability will be co-sponsored by multiple Service/Sponsor Offices across the FAA.

**S/O Priority:** UAS Operational Capability 2

**Outcomes:**

- **Access and Approval:** Validation of UAS operations to streamline operational approval processes
- **Airspace Integration:** Enhancements to the National Airspace System (NAS) including traffic management concepts
- **Capabilities and Systems:** Deployment of technologies and development of system components
- **Certification:** UAS design, production, and airworthiness requirements
- **Concept Development:** Developing and maturing operational scenarios, use cases, and concept of operations (ConOps)
- **Forecast:** Estimating the time and location of types, numbers, and effects of UAS operations
- **Policies:** Policies, regulations, and processes
- **Requirements:** Performance thresholds and system constraints
- **Standards:** Development and validation of UAS safety and security standards
- **Training:** Qualification of UAS pilots, crew, and supporting workforce

### Research Gap Analysis

| Research Questions   | Contribution | Research Output  |
|--|--------------|--|
|  <p>2.1 What are concepts for low altitude small UAS package delivery operations?</p> | 10%          | Please refer to <b>Edition 5 (2021-2026) of the FAA UAS/AAM Integration Research Plan section: Small UAS Package Delivery Operations</b> to view the mapping of research questions and activities outlined for this operational capability and its objective(s). |
| 2.2 What are the impacts of Advanced Air Mobility (AAM)/Urban Air Mobility (UAM) operations on small UAS package delivery operations in the NAS?                         | 10%          | Please refer to <b>Edition 5 (2021-2026) of the FAA UAS/AAM Integration Research Plan section: Small UAS Package Delivery Operations</b> to view the mapping of research questions and activities outlined for this operational capability and its objective(s). |
| 2.3 What are the Command and Control (C2) standards for multiple small UAS package delivery operations?  | 20%          | Please refer to <b>Edition 5 (2021-2026) of the FAA UAS/AAM Integration Research Plan section: Small UAS Package Delivery Operations</b> to view   |



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|   |     | the mapping of research questions and activities outlined for this operational capability and its objective(s).  |
| 2.4 What are viable meteorological data collection and analysis capabilities required to effectively inform performance based standards for small UAS package delivery operations in the NAS? | 20% | Please refer to <b>Edition 5 (2021-2026) of the FAA UAS/AAM Integration Research Plan section: Small UAS Package Delivery Operations</b> to view the mapping of research questions and activities outlined for this operational capability and its objective(s). |
| 2.5 What is the impact of multiple UAS operations on Air Traffic Control (ATC) services?  | 20% | Please refer to <b>Edition 5 (2021-2026) of the FAA UAS/AAM Integration Research Plan section: Small UAS Package Delivery Operations</b> to view the mapping of research questions and activities outlined for this operational capability and its objective(s). |
| 2.6 What UAS Traffic Management (UTM) information and requirements are needed for safe UAS integration?   | 20% | Please refer to <b>Edition 5 (2021-2026) of the FAA UAS/AAM Integration Research Plan section: Small UAS Package Delivery Operations</b> to view the mapping of research questions and activities outlined for this operational capability and its objective(s). |

### 3.0 Operational Capability: *Integrated Operations*

**Definition:** Based on the integration advancements realized within the previous operational capabilities, this research enables safe and secure Unmanned Aircraft Systems (UAS) and Advanced Air Mobility (AAM) operations to co-exist, with restrictions, in controlled airspace with other aircraft operations and on/around airports. This includes both public and civil UAS and AAM operations with large and small UAS and AAM operations at varying altitudes and on instrument flight rules (IFR) flight plans.

**Primary S/O:** Sabrina Saunders-Hodge, AUS-300

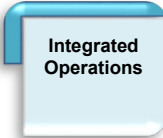
**Secondary S/O:** The research efforts to achieve this operational capability will be co-sponsored by multiple Service/Sponsor Offices across the FAA.

**S/O Priority:** UAS Operational Capability 3

**Outcomes:**

- **Airspace Integration:** Enhancements to the National Airspace System (NAS) including traffic management concepts
- **Capabilities and Systems:** Deployment of technologies and development of system components
- **Certification:** UAS design, production, and airworthiness requirements
- **Concept Development:** Developing and maturing operational scenarios, use cases, and concept of operations (ConOps)
- **Forecast:** Estimating the time and location of types, numbers, and effects of UAS operations
- **Policies:** Policies, regulations, and processes
- **Procedures:** Modification or addition of procedures for Air Traffic Control (ATC), operators, manufacturers, or maintainers
- **Requirements:** Performance thresholds and system constraints
- **Standards:** Development and validation of UAS safety and security standards
- **Training:** Qualification of UAS pilots, crew, and supporting workforce

### Research Gap Analysis

| Research Questions  | Contribution | Research Output  |
|---|--------------|--|
|  <p>3.1 What are requirements for enabling integrated UAS/AAM operations around/on airports?</p> | 10%          | Please refer to <b>Edition 5 (2021-2026) of the FAA UAS/AAM Integration Research Plan section: Integrated Operations</b> to view the mapping of research questions and activities outlined for this operational capability and its objective(s). |
| <p>3.2 What are the impacts of automated systems and multiple UAS on ATC services?</p>  | 10%          | Please refer to <b>Edition 5 (2021-2026) of the FAA UAS/AAM Integration Research Plan section: Integrated Operations</b> to view the mapping of research questions and activities outlined for this operational capability and its objective(s). |



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| 3.3 What are the impacts of UAS/AAM integrated operations on commercial space operations?   | 10% | Please refer to <b>Edition 5 (2021-2026) of the FAA UAS/AAM Integration Research Plan section: Integrated Operations</b> to view the mapping of research questions and activities outlined for this operational capability and its objective(s). |
| 3.4 What are the UAS/AAM operational and performance requirements to enable safe integrated operations?   | 5%  | Please refer to <b>Edition 5 (2021-2026) of the FAA UAS/AAM Integration Research Plan section: Integrated Operations</b> to view the mapping of research questions and activities outlined for this operational capability and its objective(s). |
| 3.5 What are the impacts of UAS/AAM operations on demand and capacity management within the National Airspace System (NAS)?   | 10% | Please refer to <b>Edition 5 (2021-2026) of the FAA UAS/AAM Integration Research Plan section: Integrated Operations</b> to view the mapping of research questions and activities outlined for this operational capability and its objective(s). |
| 3.6 What are viable meteorological data collection and analysis capabilities required to effectively inform performance based standards for UAS/AAM integrated operations in the NAS? | 10% | Please refer to <b>Edition 5 (2021-2026) of the FAA UAS/AAM Integration Research Plan section: Integrated Operations</b> to view the mapping of research questions and activities outlined for this operational capability and its objective(s). |
| 3.7 What are the flight management requirements to enable safe integrated UAS/AAM operations?   | 5%  | Please refer to <b>Edition 5 (2021-2026) of the FAA UAS/AAM Integration Research Plan section: Integrated Operations</b> to view the mapping of research questions and activities outlined for this operational capability and its objective(s). |
| 3.8 What are viable collection, management and reporting methods for operational and safety data to ensure secure integrated UAS/AAM operations?                                      | 10% | Please refer to <b>Edition 5 (2021-2026) of the FAA UAS/AAM Integration Research Plan section: Integrated Operations</b> to view the mapping of research questions and activities  |

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|  |     | outlined for this operational capability and its objective(s).   |
| 3.9 What are the Detect and Avoid (DAA), Command and Control (C2) systems and technology, testing methods and interoperability to enable safe integration of UAS/AAM in the NAS? | 10% | Please refer to <b>Edition 5 (2021-2026) of the FAA UAS/AAM Integration Research Plan section: Integrated Operations</b> to view the mapping of research questions and activities outlined for this operational capability and its objective(s). |
| 3.10 What are the requirements for ATC and Operator contingency management for safe integrated UAS/AAM operations?   | 10% | Please refer to <b>Edition 5 (2021-2026) of the FAA UAS/AAM Integration Research Plan section: Integrated Operations</b> to view the mapping of research questions and activities outlined for this operational capability and its objective(s). |
| 3.11 What are the requirements for UAS detection and mitigation systems to enable safe and secure integrated UAS operations?   | 10% | Please refer to <b>Edition 5 (2021-2026) of the FAA UAS/AAM Integration Research Plan section: Integrated Operations</b> to view the mapping of research questions and activities outlined for this operational capability and its objective(s). |

#### 4.0 Operational Capability: *Routine/Scheduled Operations*

**Definition:** This research will yield the data necessary to enable safe and secure regularly scheduled Unmanned Aircraft Systems (UAS) arrivals and departures at airports within Class B, C, and D airspace and permit optionally piloted aircraft, which include operations that intersect with the AAM ecosystem. The Advanced Air Mobility (AAM) ecosystem entails the routine operations of cargo and passengers through rural, suburban, and urban environments. Air Traffic Control (ATC) services will be available to UAS operators filing instrument flight rules (IFR) flight plans.

**Primary S/O:** Sabrina Saunders-Hodge

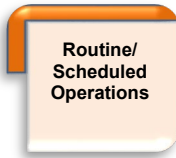
**Secondary S/O:** The research efforts to achieve this operational capability will be co-sponsored by multiple Service/Sponsor Offices across the FAA.

**S/O Priority:** UAS Operational Capability 4

**Outcomes:**

- **Airspace Integration:** Enhancements to the National Airspace System (NAS) including traffic management concepts
- **Capabilities and Systems:** Deployment of technologies and development of system components
- **Certification:** UAS design, production, and airworthiness requirements
- **Concept Development:** Developing and maturing operational scenarios, use cases, and concept of operations (ConOps)
- **Policies:** Policies, regulations, and processes
- **Standards:** Development and validation of UAS safety and security standards

#### Research Gap Analysis

| Research Questions   | Contribution | Research Output   |
|--|--------------|---|
|  <p>4.1 What are the Air Traffic Management (ATM)-UAS Traffic Management (UTM) data exchange requirements needed for safe routine/scheduled UAS operations?</p> | 10%          | Please refer to <b>Edition 5 (2021-2026) of the FAA UAS/AAM Integration Research Plan section: Routine/Scheduled Operations</b> to view the mapping of research questions and activities outlined for this operational capability and its objective(s). |
| <p>4.2 What are the impacts of routine/scheduled UAS operations on ATC services and NAS operations?</p>  | 10%          | Please refer to <b>Edition 5 (2021-2026) of the FAA UAS/AAM Integration Research Plan section: Routine/Scheduled Operations</b> to view the mapping of research questions and activities outlined for this operational capability and its objective(s). |

|   |     |   |
|---|-----|---|
| 4.3 What are the UAS/AAM operational and performance requirements for safe routine/scheduled operations?  | 15% | Please refer to <b>Edition 5 (2021-2026) of the FAA UAS/AAM Integration Research Plan section: Routine/Scheduled Operations</b> to view the mapping of research questions and activities outlined for this operational capability and its objective(s). |
| 4.4 What are viable collection, management and reporting methods for operational and safety data to ensure secure routine/scheduled UAS/AAM operations? | 10% | Please refer to <b>Edition 5 (2021-2026) of the FAA UAS/AAM Integration Research Plan section: Routine/Scheduled Operations</b> to view the mapping of research questions and activities outlined for this operational capability and its objective(s). |
| 4.5 What are the necessary risk-based assessments to certify UAS/AAM routine/scheduled operations?  | 15% | Please refer to <b>Edition 5 (2021-2026) of the FAA UAS/AAM Integration Research Plan section: Routine/Scheduled Operations</b> to view the mapping of research questions and activities outlined for this operational capability and its objective(s). |
| 4.6 What are the impacts of routine/scheduled AAM/UAM operations on the NAS?  | 10% | Please refer to <b>Edition 5 (2021-2026) of the FAA UAS/AAM Integration Research Plan section: Routine/Scheduled Operations</b> to view the mapping of research questions and activities outlined for this operational capability and its objective(s). |

## 5.0 Operational Capability: *Large Carrier Cargo Operations*

**Definition:** This research will yield the data necessary to enable the safe and secure transport of cargo to be conducted in U.S. domestic airspace. These cargo flights will be remotely piloted or optionally piloted, and intersect with cargo operations expected in the Advanced Air Mobility (AAM) ecosystem. This includes cargo transport by revolutionary aircraft in rural, suburban, and urban environments.

**Primary S/O:** Sabrina Saunders-Hodge, AUS-300


**Secondary S/O:** The research efforts to achieve this operational capability will be co-sponsored by multiple Service/Sponsor Offices across the FAA.

**S/O Priority:** UAS Operational Capability 5

### Outcomes:

- **Capabilities and Systems:** Deployment of technologies and development of system components
- **Certification:** UAS design, production, and airworthiness requirements
- **Concept Development:** Developing and maturing operational scenarios, use cases, and concept of operations (ConOps)
- **Forecast:** Estimating the time and location of types, numbers, and effects of UAS operations
- **Policies:** Policies, regulations, and processes
- **Procedures:** Modification or addition of procedures for Air Traffic Control (ATC), operators, manufacturers, or maintainers
- **Standards:** Development and validation of UAS safety and security standards

## Research Gap Analysis

| Research Questions   | Contribution | Research Output   |
|--|--------------|---|
|  <p>5.1 What are the impacts of UAS/AAM large carrier cargo operations on ATC services and National Airspace System (NAS) operations?</p> | 20%          | Please refer to <b>Edition 5 (2021-2026) of the FAA UAS/AAM Integration Research Plan section: Large Cargo Carrier Operations</b> to view the mapping of research questions and activities outlined for this operational capability and its objective(s). |
| <p>5.2 What are the necessary risk-based assessments to certify UAS/AAM for large carrier cargo operations?</p>  | 20%          | Please refer to <b>Edition 5 (2021-2026) of the FAA UAS/AAM Integration Research Plan section: Large Cargo Carrier Operations</b> to view the mapping of research questions and activities outlined for this operational capability and its objective(s). |

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|--|-----|---|
| 5.3 What are the UAS/AAM operational and performance requirements for safe large carrier cargo operations?   | 20% | Please refer to <b>Edition 5 (2021-2026) of the FAA UAS/AAM Integration Research Plan section: Large Cargo Carrier Operations</b> to view the mapping of research questions and activities outlined for this operational capability and its objective(s). |
| 5.4 What are the safety impacts of AAM/UAM large carrier cargo operations on the NAS?  | 20% | Please refer to <b>Edition 5 (2021-2026) of the FAA UAS/AAM Integration Research Plan section: Large Cargo Carrier Operations</b> to view the mapping of research questions and activities outlined for this operational capability and its objective(s). |
| 5.5 What are viable meteorological data collection and analysis capabilities required to effectively inform performance based standards for UAS/AAM large cargo carrier operations in the NAS? | 20% | Please refer to <b>Edition 5 (2021-2026) of the FAA UAS/AAM Integration Research Plan section: Large Cargo Carrier Operations</b> to view the mapping of research questions and activities outlined for this operational capability and its objective(s). |



## 6.0 Operational Capability: *Passenger Transport Operations*

**Definition:** This research will yield the data necessary to enable safe and secure remotely and optionally piloted passenger transport operations, including operations that intersect with the Advanced Air Mobility (AAM) ecosystem. This includes passenger transport by revolutionary aircraft in rural, suburban, and urban environments, which will likely use electric Vertical Take-off and Landing aircraft and high levels of automation.

**Primary S/O:** Sabrina Saunders-Hodge, AUS-300


**Secondary S/O:** The research efforts to achieve this operational capability will be co-sponsored by multiple Service/Sponsor Offices across the FAA.

**S/O Priority:** UAS Operational Capability 6

**Outcomes:**

- **Airspace Integration:** Enhancements to the National Airspace System (NAS) including traffic management concepts
- **Capabilities and Systems:** Deployment of technologies and development of system components
- **Certification:** UAS design, production, and airworthiness requirements
- **Concept Development:** Developing and maturing operational scenarios, use cases, and ConOps
- **Forecast:** Estimating the time and location of types, numbers, and effects of UAS operations
- **Requirements:** Performance thresholds and system constraints
- **Policies:** Policies, regulations, and processes
- **Standards:** Development and validation of UAS safety and security standards

### Research Gap Analysis

| Research Questions  | Contribution | Research Output   |
|---|--------------|---|
|  <p>6.1 What are the necessary risk-based assessments to certify UAS/AAM for passenger transport operations?</p> | 25%          | Please refer to <b>Edition 5 (2021-2026) of the FAA UAS/AAM Integration Research Plan section: Passenger Transport Operations</b> to view the mapping of research questions and activities outlined for this operational capability and its objective(s). |
| 6.2 What are the UAS/AAM operational and performance requirements for safe passenger transport operations?  | 25%          | Please refer to <b>Edition 5 (2021-2026) of the FAA UAS/AAM Integration Research Plan section: Passenger Transport Operations</b> to view the mapping of research questions and activities outlined for this operational capability and its objective(s). |
| 6.3 What are viable meteorological data collection and analysis capabilities required to effectively inform performance based standards for   | 25%          | Please refer to <b>Edition 5 (2021-2026) of the FAA UAS/AAM Integration Research Plan Section: Passenger Transport Operations</b> to view the mapping of research questions and activities outlined   |

|  |     |   |
|--|-----|---|
| UAS/UAM passenger transport operations in the NAS?                             |     | for this operational capability and its objective(s).   |
| 6.4 What are the impacts of passenger transport AAM/UAM operations on the NAS? | 25% | Please refer to <b>Edition 5 (2021-2026) of the FAA UAS/AAM Integration Research Plan section: Passenger Transport Operations</b> to view the mapping of research questions and activities outlined for this operational capability and its objective(s). |

## Part 3: RE&D Management Team Programming

### BLI Planning 3 Year Funding Profile (FY22-24) as of 01/28/2022

| YEAR   | Appropriation or Formulation Contract Funding (\$) | INITIAL BLI TEAM PLANNING CONTRACT FUNDING – AFN BLI Target minus the Hold Back (\$) | AVS-1 APPROVED CONTRACT FUNDING (\$) |
|--|--|--|--------------------------------------|
| FY22 formulation or appropriation (if known) | \$18,818,909                                       |  |                                      |
| FY23 formulation                             | \$12,187,363                                       |  |                                      |
| FY24 AFN funding allocation target           |  | \$15,382,159   | \$17,657,159                         |

### BLI Plan 5 Year Outlook (FY22-27)

**Edition 5 (2021-2026) of the FAA UAS/AAM Integration Research Plan** maps out research activities needed to integrate UAS into the NAS and identifies the intersection between UAS and AAM operations. The mapping of research activities to FY27 is currently underway and slated for completion by September 30, 2022.

| Operational Capability                | References for 5 Year Outlook   |
|---------------------------------------|---|
| Expanded Operations                   | Please refer to <b>Edition 5 (2021-2026) of the FAA UAS/AAM Integration Research Plan section: Expanded Operations (pages 103-129)</b> for the multi-year outlook of research questions and activities outlined for this operational capability and its objective(s).                   |
| Small UAS Package Delivery Operations | Please refer to <b>Edition 5 (2021-2026) of the FAA UAS/AAM Integration Research Plan section: Small UAS Package Delivery Operations (pages 130-136)</b> for the multi-year outlook of research questions and activities outlined for this operational capability and its objective(s). |
| Integrated Operations                 | Please refer to <b>Edition 5 (2021-2026) of the FAA UAS/AAM Integration Research Plan section: Integrated Operations (pages 137-176)</b> for the multi-year outlook of research questions and activities outlined for this operational capability and its objective(s).                 |
| Routine/Scheduled Operations          | Please refer to <b>Edition 5 (2021-2026) of the FAA UAS/AAM Integration Research Plan section: Routine/Scheduled Operations (pages 177-186)</b> for the multi-year outlook of research questions and activities outlined for this operational capability and its objective(s).          |
| Large Carrier Cargo Operations        | Please refer to <b>Edition 5 (2021-2026) of the FAA UAS/AAM Integration Research Plan section: Large Carrier Cargo Operations (pages 187-194)</b> for the multi-year outlook of research questions and activities outlined for this operational capability and its objective(s).        |
| Passenger Transport Operations        | Please refer to <b>Edition 5 (2021-2026) of the FAA UAS/AAM Integration Research Plan section: Passenger Transport Operations (pages 195-208)</b> for the multi-year outlook of research questions and activities outlined for this operational capability and its objective(s).        |

## Part 4: BLI Team Members

| Participants Name                            | Role  | Routing Symbol |
|--|---|----------------|
| Sabrina Saunders-Hodge                       | BLI Chair                                     | AUS-300        |
| Scott LeMay                                  | REDMT Voting Member                           | AVP-200        |
| John Mixon                                   | REDMT Voting Member                           | AOV-150        |
| Doug Rodzon                                  | REDMT Voting Member                           | AFS-430        |
| Anthony Tvaryanas                            | REDMT Voting Member                           | AAM-600        |
| Jorge Fernandez                              | REDMT Voting Member                           | AIR-610        |
|  |   |                |
| Paul Strande                                 | UAS Integration Research Roundtable Principal | AUS            |
| Jeremy Grogan, Marcus Cunningham , Rany Azzi | UAS Integration Research Roundtable Principal | AFS            |
| Mike Romanowski , Jorge Fernandez            | UAS Integration Research Roundtable Principal | AIR            |
| Scott Lemay                                  | UAS Integration Research Roundtable Principal | AVP            |
| James Daum , Mark Ellis, William Iverson-Day | UAS Integration Research Roundtable Principal | AOV            |
| Carla Hackworth , Kevin Williams             | UAS Integration Research Roundtable Principal | AAM            |
| Dave Buczek , Donald Grampp                  | UAS Integration Research Roundtable Principal | ATO            |
| Michael Lukacs , Dipasis Bhadra              | UAS Integration Research Roundtable Principal | APO            |
| John Dermody , Jim Patterson                 | UAS Integration Research Roundtable Principal | ARP            |
| Elizabeth Soltys , Meredith Gibbs            | UAS Integration Research Roundtable Principal | ASH            |