PROJECT SNAPSHOT | eLIFT-NC

Electric Logistics and Integrated Flight Testing

Overview

North Carolina's healthcare system faces mounting challenges, including rising costs, workforce shortages, and growing patient demand. Rural communities face additional healthcare access and quality of care challenges, particularly after emergencies and natural disasters. As healthcare providers seek innovative solutions, Electric Vertical Take-off and Landing (eVTOL) aircraft technology can shorten time-to-care by moving equipment, clinical teams, and patients to facilities quickly.

The North Carolina Department of Transportation's (NCDOT) Electric Logistics and Integrated Flight Testing (eLIFT) initiative will establish a statewide aviation network connecting hospitals, airports, and rural communities to transform healthcare access and quality of care while meeting rigorous federal standards for safety, infrastructure, and community integration.

eLIFT-NC Vision

Develop a statewide Advanced Air Mobility (AAM) network by creating a connected aviation ecosystem for healthcare mobility and disaster logistics creating a national model for safe, scalable AAM integration while maintaining NC's position as a leader in aviation innovation.

Mission Objective

NC's mission is to build safe, efficient, resilient, and sustainable extensions of today's aviation system that will transform access to healthcare through new and novel multimodal options, while reducing costs for transportation infrastructure development and maintenance.

Benefits

Improves quality of care and patient mobility: Cuts response times to rural areas, improves access to high-quality care, and enables care from individuals with mobility challenges.

Infrastructure planning: Enable planning and evaluation of vertiports, charging systems, and digital infrastructure required for scalable AAM operations.

Facilitates AAM Commercialization: Grows collaboration with original equipment manufacturers, operators, and healthcare systems to validate and enable AAM business models.

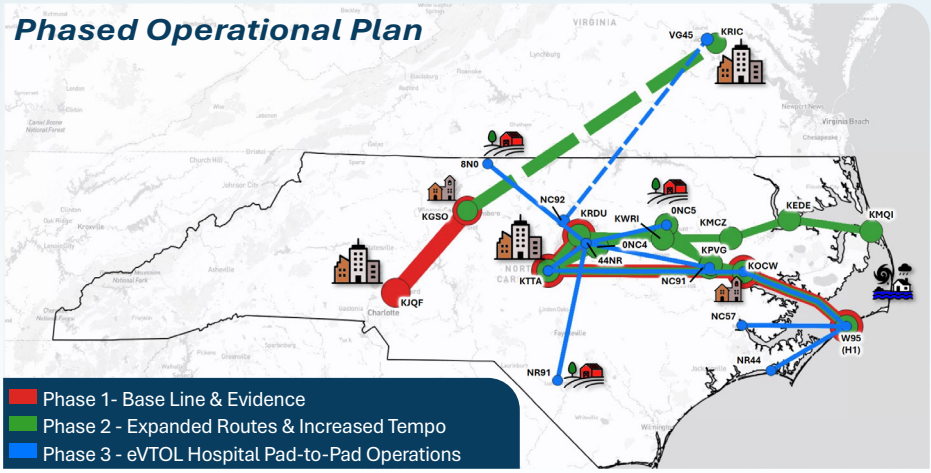
Advances National AAM Leadership: Delivers vital data to inform Federal Aviation Administration (FAA) policies and strategies and establishes a replicable blueprint for safe eVTOL and AAM commercialization.

Long-Term Return on Investment: For every $1 invested, NC could realize $3–$5 in benefits over the next decade through healthcare savings and economic development.

Project Scope

Phases 1, 2, and 3 are part of the eVTOL Integration Pilot Program (eIPP), while Phase 4 is expected to occur following the completion of the pilot. In **Phase 1**, the program will establish daily service on core routes, expand to additional airport pairs, build a safety case under varied conditions, and engage local communities. **Phase 2** will scale operations with longer routes, diverse cargo, and introduce experimental eVTOL flights to refine multi-modal AAM logistics. By **Phase 3**, eLIFT-NC will add hospital pad-to-pad eVTOL missions for critical medical deliveries and explore passenger demonstrations with the Joby S4, creating a blended AAM network and laying the foundation for a permanent, industry-driven ecosystem that strengthens emergency response, healthcare logistics, and rural connectivity. **Phase 4** (post pilot) focuses on commercialization, as well as national and industry standardization.

Phased Operational Plan



NORTH CAROLINA Department of Transportation

Prime Offeror: North Carolina Department of Transportation **UEI #:** XSN8A4TT1DY5

NC is Poised for Success

eLIFT-NC leverages NC's robust aviation infrastructure, strong history of aviation innovation, and prior success in FAA integration programs to pioneer safe, scalable AAM operations.

NC is **"First in Flight"**

NC has **72** airports throughout the state

NC is a **leader** in **both FAA** programs:

UAS INTEGRATION PILOT PROGRAM

BEYOND

NC is already **investing** in **AAM**

ADVANCE MOBILITY -NC-

Support & Partnerships

eLIFT-NC builds on strong existing public-private partnerships.

The project unites leading healthcare and aviation innovators with strong public-sector and academic support, including but not limited to:

- **Aircraft Original Equipment Manufacturers (OEMs):** BETA Technologies (ALIA CX300 & A250), Joby Aviation (S208 & S4)
- **Part 135 Operators:** Metro Aviation, Causey Aviation
- **Healthcare:** WakeMed, UNC Health
- **Logistics:** UPS Flight Forward
- **Service Providers:** URBANPORT, Climavision, AI Virtual Towers
- **Academia:** NC State, NC A&T, ECSU (dedicated AAM Center of Excellence)
- **Public Sector:** Local airports, utilities, communities and public safety/first responders, as needed
- **Post Award Program Support:** Crown, AECOM

BETA · WakeMed · ITRE · UNC HEALTH · Joby · METRO AVIATION · CAUSEY AVIATION UNMANNED · NORTH CAROLINA AIRPORTS ASSOCIATION · UPS Flight Forward · URBANPORT · CROWN · AECOM

eLIFT-NC Aligns With the AAM National Strategy & Program Criteria

Integration Priorities & How eLIFT-NC Delivers

Airspace

Supports safe integration of AAM aircraft into the NAS through structured procedures, coordinated flight operations, and robust data sharing.

Infrastructure

Enables planning and evaluation of vertiports, charging systems, and digital infrastructure required for scalable AAM operations.

Security

Implements rigorous cybersecurity, operational security, and physical security measures aligned with federal guidance.

Community Engagement

Builds community trust through transparent outreach, equitable planning, and noise, privacy, and land use considerations.

Workforce

Fosters partnerships that strengthen the regional aviation workforce and prepare personnel for emerging AAM roles.

Automation & Overarching Recommendations

Supports safe adoption of advanced automation, contribute operational insights for FAA rulemaking, and implement cross agency best practices for long-term integration.

Criterion	How eLIFT-NC Delivers
1 **U.S.-Based Aircraft & Technology**	• Team of US incorporated companies • Attestation confirms status • Active FAA certification underway • 90 day readiness GA to GA airport
2 **Overall Economic & Geographic Representation & Proposed Models of Public-Private Partnership**	• Statewide healthcare ecosystem • Expansion of existing public-private partnerships • Urban & rural coverage
3 **Overall Representation of Operations to be Conducted**	• Phase 1: Training & initial operations (eCTOL) • Phase 2: Routes & network foundation development (eCTOL/eVTOL) • Phase 3: Scaling (eVTOL) • Phase 4: Post-program commercialization (eCTOL/eVTOL)
4 **Policy/ Regulatory Insight Potential**	• AAM National Strategy alignment • Aircraft certification advancement • Infrastructure & utility insights • Future AAM policy assistance
5 **Aircraft & Operational Readiness**	• Certification pathway data • Commercialization flight hours • Charging infrastructure planning
6 **Support For Operations**	• Statewide airport support (NCAA) • AAM Center of Excellence (R&D) • Expert program governance • Healthcare industry & legislative backing

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Resilience for Health Care

eLIFT-NC will establish a first-of-its-kind statewide AAM health network designed to support various medical needs, from cargo logistics and passenger transport to emergency response. This network will transform how state and private health organizations deliver care both inside and outside of hospital settings, enhance disaster response capabilities for events like Hurricane Helene, and enable healthcare providers to reach rural communities directly. By shifting care to patients rather than requiring remote residents, aging populations, or individuals with mobility challenges to travel long distances, eLIFT-NC will set a new standard for accessible healthcare delivery.

NC health systems, including WakeMed and UNC Health, share a common vision for leveraging AAM aircraft to advance healthcare delivery through:

Enhanced data sharing, elimination of complex logistics layers, and improved ETA prediction.

Rapid transport of blood, equipment, and general cargo across health facilities.

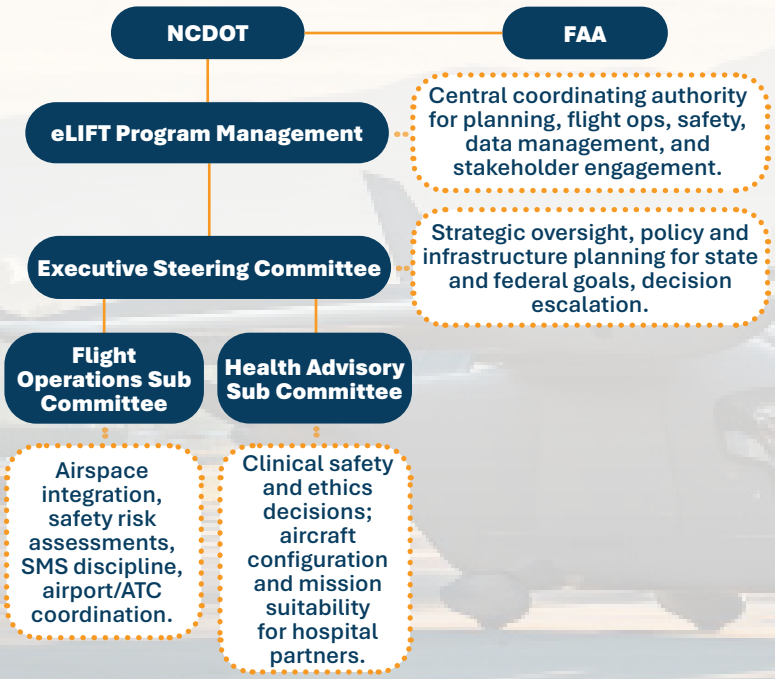
Timely movement of essential items such as stretchers, neonatal isolettes, ventilators, monitors, and other powered medical devices.

Transport of care teams and gear to support treatment in rural communities, health deserts, and non-primary facilities.

Safe and efficient movement for low-acuity flights and mass casualty response missions.

Urgent deployment of doctors, critical supplies, and backup power/network resources during emergencies.

Program Governance



What Problems Will This Effort Solve?

Challenges	eLIFT-NC's Solutions
• Rising costs & supply chain issues	☑ AAM-enabled transport for patients & teams
• Workforce shortages	☑ Rapid delivery of critical supplies
• Patient demand up 9–10% by 2034	☑ Expand specialty access in rural areas
• Rural hospital closures (12 since 2006)	☑ Reduce system strain & optimize capacity
• Transportation barriers & longer EMS response times	☑ Strengthen statewide healthcare resilience
• Telehealth limits (broadband gaps)	

Research Objectives for Policy, Data, & Workforce

Data Collection

The **eLIFT-NC team** will collect field data measurements for aircraft noise, downwash and outwash production, electricity usage and time measurement for charging, airport throughput, and GIS visualization. Standardized flight performance and safety datasets will be curated and managed by the NC AAM Center of Excellence.

Research, Policy, & Standards

Virginia Tech will share data and insights for AI assisted virtual tower investigations performed for NASA to support ATC automation at NC's identified GA airports.

The **Health Advisory subcommittee** will create replicable playbooks for recommended AAM compliance with hospital procedures, helipad integration, and disaster response.

NCDOT Division of Aviation will create Airport Data packages for AAM integration (turn times, reliability, airspace integration evidence) to support **FAA rulemaking** and **AAM standards**. Additionally, they will research financial metrics and identify codes of policy that might be limiting to future airport operations and financial models (i.e., State tax policies on electric utilities).

Workforce Development

NCDOT will work with Commerce and Economic Development divisions to publish R&D recommendations for workforce pipelines, advancing jobs for pilots, maintainers, analysts, and infrastructure technicians tied to community colleges and university partners.